

UNITED STATES
DEPARTMENT OF
COMMERCE
PUBLICATION



NBS SPECIAL PUBLICATION **366**

SUPPLEMENT 1

**Bibliography on
Atomic Line Shapes and Shifts
(April 1972 through June 1973)**

**U.S.
DEPARTMENT
OF
COMMERCE**
National
Bureau
of
Standards

NATIONAL BUREAU OF STANDARDS

The National Bureau of Standards¹ was established by an act of Congress March 3, 1901. The Bureau's overall goal is to strengthen and advance the Nation's science and technology and facilitate their effective application for public benefit. To this end, the Bureau conducts research and provides: (1) a basis for the Nation's physical measurement system, (2) scientific and technological services for industry and government, (3) a technical basis for equity in trade, and (4) technical services to promote public safety. The Bureau consists of the Institute for Basic Standards, the Institute for Materials Research, the Institute for Applied Technology, the Institute for Computer Sciences and Technology, and the Office for Information Programs.

THE INSTITUTE FOR BASIC STANDARDS provides the central basis within the United States of a complete and consistent system of physical measurement; coordinates that system with measurement systems of other nations; and furnishes essential services leading to accurate and uniform physical measurements throughout the Nation's scientific community, industry, and commerce. The Institute consists of a Center for Radiation Research, an Office of Measurement Services and the following divisions:

Applied Mathematics — Electricity — Mechanics — Heat — Optical Physics — Nuclear Sciences² — Applied Radiation² — Quantum Electronics³ — Electromagnetics³ — Time and Frequency³ — Laboratory Astrophysics³ — Cryogenics³.

THE INSTITUTE FOR MATERIALS RESEARCH conducts materials research leading to improved methods of measurement, standards, and data on the properties of well-characterized materials needed by industry, commerce, educational institutions, and Government; provides advisory and research services to other Government agencies; and develops, produces, and distributes standard reference materials. The Institute consists of the Office of Standard Reference Materials and the following divisions:

Analytical Chemistry — Polymers — Metallurgy — Inorganic Materials — Reactor Radiation — Physical Chemistry.

THE INSTITUTE FOR APPLIED TECHNOLOGY provides technical services to promote the use of available technology and to facilitate technological innovation in industry and Government; cooperates with public and private organizations leading to the development of technological standards (including mandatory safety standards), codes and methods of test; and provides technical advice and services to Government agencies upon request. The Institute consists of a Center for Building Technology and the following divisions and offices:

Engineering and Product Standards — Weights and Measures — Invention and Innovation — Product Evaluation Technology — Electronic Technology — Technical Analysis — Measurement Engineering — Structures, Materials, and Life Safety⁴ — Building Environment⁴ — Technical Evaluation and Application⁴ — Fire Technology.

THE INSTITUTE FOR COMPUTER SCIENCES AND TECHNOLOGY conducts research and provides technical services designed to aid Government agencies in improving cost effectiveness in the conduct of their programs through the selection, acquisition, and effective utilization of automatic data processing equipment; and serves as the principal focus within the executive branch for the development of Federal standards for automatic data processing equipment, techniques, and computer languages. The Institute consists of the following divisions:

Computer Services — Systems and Software — Computer Systems Engineering — Information Technology.

THE OFFICE FOR INFORMATION PROGRAMS promotes optimum dissemination and accessibility of scientific information generated within NBS and other agencies of the Federal Government; promotes the development of the National Standard Reference Data System and a system of information analysis centers dealing with the broader aspects of the National Measurement System; provides appropriate services to ensure that the NBS staff has optimum accessibility to the scientific information of the world. The Office consists of the following organizational units:

Office of Standard Reference Data — Office of Information Activities — Office of Technical Publications — Library — Office of International Relations.

¹ Headquarters and Laboratories at Gaithersburg, Maryland, unless otherwise noted; mailing address Washington, D.C. 20234.

² Part of the Center for Radiation Research.

³ Located at Boulder, Colorado 80302.

⁴ Part of the Center for Building Technology.

Bibliography on Atomic Line Shapes and Shifts (April 1972 through June 1973)

J. R. Fuhr, L. J. Roszman, and W. L. Wiese

Institute for Basic Standards
National Bureau of Standards
Washington, D.C. 20234



U.S. DEPARTMENT OF COMMERCE, Frederick B. Dent, *Secretary*
NATIONAL BUREAU OF STANDARDS, Richard W. Roberts, *Director*

Issued January 1974

Library of Congress Catalog Number: 72-600147

National Bureau of Standards Special Publication 366 Supplement 1

Nat. Bur. Stand. (U.S.), Spec. Publ. 366 Suppl. 1, 73 pages (Jan. 1974)

CODEN: XNBSAV

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON: 1974

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402
Price \$1.05

Foreword

The National Standard Reference Data System was established in 1963 for the purpose of promoting the critical evaluation and dissemination of numerical data of the physical sciences. The program is coordinated by the Office of Standard Reference Data of the National Bureau of Standards but involves the efforts of many groups in universities, government laboratories, and private industry. The primary aim of the program is to provide compilations of critically evaluated physical and chemical property data. These tables are published in the *Journal of Physical and Chemical Reference Data*, in the NSRDS-NBS series of the National Bureau of Standards, and through other appropriate channels.

The task of critical evaluation is carried out in various data centers, each with a well-defined technical scope. A necessary preliminary step to the critical evaluation process is the retrieval from the world scientific literature of all papers falling within the scope of the center. Each center, therefore, builds up a comprehensive well-indexed bibliographical file which forms the base for the evaluation task. Bibliographies derived from these files are published when they appear to be of value to research workers and others interested in the particular technical area.

Further information on NSRDS and the publications which form the primary output of the program may be obtained by writing to the Office of Standard Reference Data, National Bureau of Standards, Washington, DC 20234.

David R. Lide, Jr., Chief
Office of Standard Reference Data

Contents

	Page
Foreword	III
A. INTRODUCTION	VII
Table of Code Letters and Abbreviations	VIII
B. BIBLIOGRAPHICAL MATERIAL	1
1. LITERATURE REFERENCES OF GENERAL INTEREST.....	1
1.0. General articles on line shapes and shifts (general theories and comments, etc.)	1
1.1. Pressure broadening	1
1.1.1. Stark broadening and shifts	1
1.1.1.1. Hydrogen and hydrogen-like (overlapping) lines	1
1.1.1.2. Isolated lines of neutral spectra	2
1.1.1.3. Isolated lines of ionic spectra	2
1.1.1.4. Topics of particular interest: [Line wings; Effects of collective electric fields (plasma polarization shift, plasma oscillations with satellite bands); Asymmetries of H-lines; Microfield distributions; Magnetic fields]	2
1.1.2. Broadening in foreign gases (Van der Waals broadening)	2
1.1.2.1. Satellite bands	3
1.1.3. Resonance broadening	3
1.2. Basic articles on Doppler and natural line shapes	3
1.2.1. Doppler broadening	3
1.2.2. Natural line broadening	3
1.2.3. Radiation induced broadening	3
1.3. Basic papers on instrumental broadening, deconvolution, superposition of two or more simultaneously acting broadening mechanisms	4
1.3.1. Determination of instrumental line profiles; experimental techniques for determining line shapes	4
1.3.2. Deconvolution	4
1.3.3. Superposition of broadening mechanisms	4
1.4. Important line broadening applications	4
1.4.1. Laser applications	4
1.4.2. Astrophysical applications	5
1.4.3. Plasma diagnostics	5
1.4.4. Other applications	5
1.5. Other topics involving line shapes and shifts	5
1.5.1. The line shape in the presence of self-absorption; effects of radiative transfer	5
1.5.2. Broadening of scattered radiation	6
1.5.3. Some important papers on molecular line broadening	6
1.5.4. Miscellaneous topics	6

	Page
1.6. Review articles	7
1.6.1. General line broadening reviews	7
1.6.2. Reviews on pressure broadening	7
1.6.2.1. Reviews on Stark broadening	7
1.6.2.2. Reviews on foreign gas broadening	7
1.6.2.3. Reviews on resonance broadening	7
1.7. References on line broadening tables and bibliographies	7
1.7.1. General line broadening tables	7
1.7.2. Pressure broadening tables	7
1.7.2.1. Special Stark broadening tables	7
1.7.3. Doppler and natural line broadening tables	7
1.7.4. Tables of Voigt functions	7
1.7.5. Line broadening bibliographies	7
2. LITERATURE REFERENCES CONTAINING NUMERICAL DATA	8
3. CHRONOLOGICAL LISTING OF ALL REFERENCES WITH FULL TITLES.....	17
4. LIST OF AUTHORS	49
5. ERRATA TO THE FIRST BIBLIOGRAPHY	62

BIBLIOGRAPHY ON ATOMIC LINE SHAPES AND SHIFTS (April 1972 through June 1973)

J. R. Fuhr, L. J. Roszman, and W. L. Wiese

This is the first supplement to the NBS Special Publication 366, "Bibliography on Atomic Line Shapes and Shifts (1889 through March 1972)." It contains about 350 references and covers the literature from April 1972 through June 1973. The bibliography contains five major parts: (1) All general interest papers are catalogued according to the broadening mechanisms (and, further, according to special topics under several of the mechanisms) and as to whether the work is a general theory, a general review, a table of profiles or parameters, a comment on existing work, a study of general experimental measurement techniques, or an experimental effort of general importance. Also included are selected papers on important applications of line broadening and on miscellaneous topics relating to atomic spectral line shapes and shifts. (2) In Part 2, all papers containing numerical data are ordered as to element, ionization stage, broadening mechanism (in the case of foreign gas broadening the perturbing species are listed), and it is indicated whether the data are experimentally or theoretically derived. (3) While in the two preceding parts of the bibliography the references are listed for brevity by identification numbers only, in Part 3 all references are listed completely by journal, authors, and title and are arranged chronologically and alphabetically within each year according to the principal author. (4) This section contains a list of all authors and their papers. (5) A final section provides corrections or additions to our first bibliography.

Key words: Atomic; instrumental broadening; line shapes; line shifts; pressure broadening; resonance broadening; Stark broadening; Van der Waals broadening.

A. INTRODUCTION

Since the publication of our first "Bibliography on Atomic Line Shapes and Shifts"¹ in September 1972, about 350 new articles have appeared. This first supplement contains references to all new papers received in the NBS library before July 1973. In addition, we have added some older papers overlooked in the compilation of the previous bibliography, have translated some previously untranslated Russian language papers, and now have English language translations of previously cited Russian language journals.

The arrangement of the preceding bibliography is generally retained. Thus, recently discovered articles published prior to 1972 are listed in Section 3 under the year of publication with a number immediately following the last number cited for that year in our first bibliography. These new numbers do not overlap with those of the following year as several "open" numbers were left at the end of each year for such additions. Second, since we feel that our collection of

articles for the year 1972 is now reasonably complete, all references for that year have been renumbered for this supplement and are listed here with the new numbers. Third, a fifth section consisting of errata to the first bibliography has been added to this supplement. The errata consist of corrections and additions to the first bibliography, as well as references to English translations of previously cited articles in foreign language journals.

We gratefully acknowledge the capable assistance of Mrs. Georgia Martin in developing computer based cataloging and sorting programs and in assisting with the arrangement of this supplement. Also, it is a pleasure to acknowledge the competent assistance of Ms. Evelyn White-Frazer and Mrs. Beverly Specht in arranging and typing this supplemental bibliography.

¹ Fuhr, J. R., Wiese, W. L., and Roszman, L. J., Bibliography on Atomic Line Shapes and Shifts (1889 through March 1972), Nat. Bur. Stand. (U.S.), Spec. Publ. 366, 165 pages (Sept. 1972).

TABLE OF CODE LETTERS AND ABBREVIATIONS

A. Description

1. T—theoretical method
2. E—experimental method
3. C—comment

B. Language

1. Dut.—Dutch
2. Fr.—French
3. Ger.—German
4. Ital.—Italian
5. Lith.—Lithuanian
6. Russ.—Russian

B. BIBLIOGRAPHICAL MATERIAL

1. LITERATURE REFERENCES OF GENERAL INTEREST

1.0 GENERAL ARTICLES ON LINE SHAPES AND SHIFTS (GENERAL THEORIES AND COMMENTS, ETC.)

Theoretical papers: 2161

1.1 PRESSURE BROADENING

Theoretical papers: 1124, 1358, 1676, 1848, 1849, 1883,
1907, 1917, 1938, 2001, 2076, 2158

Combined theoretical-comments: 1967

1.1.1. Stark broadening and shifts

Comments: 2058

Theoretical papers: 1366, 1519, 1678, 1846, 1852,
1863, 1913, 1937, 1957, 2003,
2062, 2070, 2077, 2146, 2156

Combined theoretical-comments: 2002

Combined theoretical-experimental: 1984

1.1.1.1. Hydrogen and hydrogen-like (overlapping) lines

Comments: 1968, 2036

Theoretical papers: 1530, 1866, 1879, 1910,
1936, 1990, 1991, 2008,
2010, 2039, 2041, 2057,

Theoretical papers: 2115, 2127, 2138, 2160,
2165

1.1.1.2. Isolated lines of neutral spectra

Experimental papers: 2005

Theoretical papers: 1854, 1952, 2040, 2123

1.1.1.3. Isolated lines of ionic spectra

Comments: 1681

1.1.1.4. Topics of particular interest

A. Line wings

Comments: 1969

Theoretical papers: 2070

B. Effects of collective electric fields

Comments: 1914

Experimental papers: 1934, 1949, 2073,
2129, 2130

Combined theoretical-experimental: 1976

C. Asymmetries of H-lines

Experimental papers: 1916, 2079

Theoretical papers: 1911, 2030

D. Microfield distributions

Theoretical papers: 548, 1530, 1881, 2127,
2157

E. Magnetic fields

Theoretical papers: 1950, 2003, 2029

Combined theoretical-experimental: 1976

1.1.2. Broadening in foreign gases (Van der Waals broadening)

Comments: 867, 1859, 2013

Theoretical papers: 1529, 1542, 1920, 1935, 1947,

Theoretical papers: 1964, 1975, 2006, 2015, 2047,
2048, 2052, 2091, 2117, 2121,
2126

Combined theoretical-comments: 1363

1.1.2.1. Satellite bands

Experimental papers: 1121, 1235, 1240, 1532,
1533, 1544, 1673, 1675

Theoretical papers: 1989, 2015, 2113, 2132,
2159

Combined experimental-comments: 2027

1.1.3. Resonance broadening

Theoretical papers: 1858, 2019, 2089, 2090, 2153

1.2. BASIC ARTICLES ON DOPPLER AND NATURAL LINE SHAPES

1.2.1. Doppler broadening

Theoretical papers: 1529, 1539, 1540, 1908, 1920,
1923, 1975, 2000, 2089, 2091

1.2.2. Natural line broadening

Experimental papers: 1367

Theoretical papers: 2004

1.2.3. Radiation induced broadening

Comments: 2082

Experimental papers: 1365, 1688, 1862, 1873, 1955,
1995

Theoretical papers: 1231, 1529, 1540, 1874,
2011, 2033, 2043, 2088,
2131

Combined theoretical-experimental: 1683, 1942, 2162

1.3. BASIC PAPERS ON INSTRUMENTAL BROADENING, DECONVOLUTION,
SUPERPOSITION OF TWO OR MORE SIMULTANEOUSLY ACTING BROADENING
MECHANISMS

1.3.1. Determination of instrumental line profiles;
experimental techniques for determining line shapes

Experimental papers: 1941

Theoretical papers: 1360, 1839, 1840, 1868, 1872,
1940, 1996, 1999, 2021, 2024,
2028, 2072, 2147

Combined theoretical-experimental: 508, 2037

1.3.2. Deconvolution

Theoretical papers: 1360, 1539, 1844, 1868, 1877,
1944, 1981, 1996, 2024, 2067,
2072, 2147

Combined theoretical-experimental: 2037

1.3.3. Superposition of broadening mechanisms

Comments: 1921

Experimental papers: 1941

Theoretical papers: 623, 1529, 1540, 1908, 1918,
1920, 1972, 1975, 2000, 2064,
2089, 2091, 2133

Combined theoretical-comments: 1119

Combined theoretical-experimental: 2012

1.4. IMPORTANT LINE BROADENING APPLICATIONS

1.4.1. Laser applications

Experimental papers: 1864, 1870, 1873, 1955, 1993,
1995, 2022, 2065, 2116

Theoretical papers: 1540, 1542, 1874, 1923,
1961, 2018, 2142

Combined theoretical-experimental: 2066

1.4.2. Astrophysical applications

Comments: 1956

Experimental papers: 1545, 1677, 1855,

Theoretical papers: 1228, 1234, 1687, 1884, 1973,
2032, 2125, 2133, 2152, 2154

Combined theoretical-comments: 1979

1.4.3. Plasma diagnostics

Comments: 1361, 1536, 1924, 2164,

Experimental papers: 582, 1230, 1679, 1680, 1686,
1871, 1878, 1886, 1925, 1933,
1934, 2141

Theoretical papers: 1234, 1242, 1376, 1535, 1842,
1926, 2053

Combined theoretical-experimental: 866, 1229, 1845,
2086, 2114

1.4.4. Other applications

Comments: 460, 867

Experimental papers: 1365, 1688, 1919

Theoretical papers: 357, 459, 1125, 1231, 1364,
1543, 1945, 1970, 2000, 2063

Combined theoretical-experimental: 1683, 2162

1.5. OTHER TOPICS INVOLVING LINE SHAPES AND SHIFTS

1.5.1. The line shape in the presence of self-absorption; effects of radiative transfer

Comments: 2074

Experimental papers: 1547

Theoretical papers: 1122, 1123, 1234, 1239, 1242,

Theoretical papers: 1362, 1376, 1850, 1884
(cont.)

Combined theoretical-comments: 1119

Combined theoretical-experimental: 1843, 1927

1.5.2. Broadening of scattered radiation

Comments: 2074

Experimental papers: 1933

Theoretical papers: 1966, 2088

1.5.3. Some important papers on molecular line broadening

Comments: 460, 1915

Theoretical papers: 459, 1849, 2034, 2085, 2126,
2153

Combined theoretical-experimental: 2020

1.5.4. Miscellaneous topics

A. Light Shifts

Comments: 1971

Theoretical papers: 1531

B. Concealed alignment- effects of magnetic fields

Theoretical papers: 1850

C. Distortions of recorded spectral lines by
noise filters

Theoretical papers: 434, 487, 737, 2042

Combined theoretical-experimental: 1241

D. Hyperfine splitting and shift

Experimental papers: 509

1.6. REVIEW ARTICLES

1.6.1. General line broadening reviews

1119, 1125, 1860

1.6.2. Reviews on pressure broadening

1930, 1977, 2025

1.6.2.1. Reviews on Stark broadening

2045, 2078

1.6.2.2. Reviews on foreign gas broadening

1537, 1977

1.6.2.3. Reviews on resonance broadening

1541

1.7. REFERENCES ON LINE BROADENING TABLES AND BIBLIOGRAPHIES

1.7.1. General line broadening tables

No papers in this category.

1.7.2. Pressure broadening tables

No papers in this category.

1.7.2.1. Special Stark broadening tables

1863, 2056, 2163

1.7.3. Doppler and natural line broadening tables

No papers in this category.

1.7.4. Tables of Voigt functions

623

1.7.5. Line broadening bibliographies

1962

2. LITERATURE REFERENCES CONTAINING NUMERICAL DATA

(References on individual elements and stages of ionization,
classified according to broadening mechanism)

<u>Description</u>	<u>Reference No.*</u>	<u>Description</u>	<u>Reference No.*</u>
Ag (Silver)		Ba (Barium)	
	Ag I		Ba I
Stark, T	2040		
Stark, T,E	508		
Van der Waals, E	1236 <u>by</u> <u>Ar-H₂</u>	Doppler, T	1948
	1236 <u>by</u> <u>C₂H₂-O₂</u>	Stark, T	1535,1948
	1236 <u>by</u> <u>H₂-O₂</u>	Van der Waals, E	2026,2119 <u>by</u> <u>Ar</u>
			2119 <u>by</u> <u>He</u>
			2026 <u>by</u> <u>Ne</u>
Al (Aluminum)			Ba II
	Al I		
Stark, E	1958	Doppler, T	1948
	Al II	Stark, E	2046
Stark, E	1958, 2134	Stark, T	1948
		Van der Waals, E	2120 <u>by</u> <u>Ar</u>
			2120 <u>by</u> <u>He</u>
Ar (Argon)		Be (Beryllium)	
	Ar I		Be II
Resonance, E	486		
Stark, E	1684,1864,2023,2068, 2069	Stark, E	2046
	Ar II	Stark, T	2137
Natural, E	1864,2065		
Stark, E	1684,2141		

*The numbers refer to paper identification numbers of Part 3.

DescriptionReference No.***Bi (Bismuth)**

Bi I

Resonance, F,C 1882

C (Carbon)

C II

Stark, T 2137

Stark-Natural, T 2038

C III

Stark, E 1922

C IV

Stark, E 1922

Stark-Natural, T 2038

Ca (Calcium)

Ca I

Stark, T,C 1979

Van der Waals, E 2139,2140 by Air-C₂H₂

2059,2119 by Ar

1236 by C₂H₂-O₂

2059,2119 by He

1236,2111 by H₂-Ar

2111 by H₂-N₂

2059 by Kr

2059 by Ne

2139,2140 by N₂O-C₂H₂

2059 by Xe

Van der Waals, T,C 1979 by H

DescriptionReference No.*

Ca II

Stark, E 582,2046

Stark, T 2087,2137

Stark, T,C 1979

Stark, T,E 1984,1985,
2049

Van der Waals, E 2120 by Ar
2120 by He

Van der Waals, T,C 1979 by H

Cd (Cadmium)

Cd I

Stark, E 582

Stark, T 1535

Van der Waals, E 1236 by Ar-H₂
1236 by C₂H₂-O₂

1880 by Hg

677 by H₂

1236 by H₂-O₂

1555 by O₂-Propane

1555 by Air-Propane

Van der Waals, T,E 1685 by Ar

1685 by D₂

1685 by He

1685 by H₂

1685 by Kr

1685 by Ne

1685 by Xe

*The numbers refer to paper identification numbers of Part 3.

<u>Description</u>	<u>Reference No.*</u>	<u>Description</u>	<u>Reference No.*</u>
Cl (Chlorine)			
Cl I		Van der Waals, T (cont.)	1364, 1543, 1989, 2113, 2132 <u>by</u> <u>Xe</u>
Stark, E	1682	Van der Waals, T,C	1363 <u>by</u> <u>Xe</u>
Cl II		Van der Waals, T,E	1974, 2012 <u>by</u> <u>Ar</u> 1974 <u>by</u> <u>He</u> 1974 <u>by</u> <u>Kr</u> 1974 <u>by</u> <u>Ne</u> 1974 <u>by</u> <u>Xe</u> 2012 <u>by</u> <u>Acetylene-air</u>
Stark, E	1865		
Stark, T	2137		
Cs (Cesium)			
Cs I		Stark-Zeeman, T	2053
Stark, E	1960	Van der Waals- Doppler, T	1920 <u>by</u> <u>He</u> 1920 <u>by</u> <u>Ne</u> 1920 <u>by</u> <u>Ar</u> 1920 <u>by</u> <u>Kr</u>
Stark, T	1535, 2053, 2054		
Stark, T,E	1118, 2081		
Van der Waals, C	1983 <u>by</u> <u>Ar</u> 1983 <u>by</u> <u>He</u>		
Van der Waals, E	1117, 1120, 1673, 1959, 2118 <u>by</u> <u>Ar</u> 1120, 1673 <u>by</u> <u>He</u> 1532 <u>by</u> <u>Hg</u> 1120, 1673 <u>by</u> <u>Kr</u> 1120, 1673, 1959 <u>by</u> <u>Ne</u> 1120, 1121, 1673 <u>by</u> <u>Xe</u> 209 <u>by</u> <u>Hydrocarbons</u>		
Van der Waals, E,C	2027 <u>by</u> <u>Cs</u>	Cu (Copper)	
Van der Waals, T	1364, 1543, 1909, 2047, 2113, 2132 <u>by</u> <u>Ar</u> 2051 <u>by</u> <u>H</u> 1364, 1543, 2132 <u>by</u> <u>He</u> 2132 <u>by</u> <u>Hg</u> 1364, 1543, 1989, 2132 <u>by</u> <u>Kr</u> 1364, 1543, 2132 <u>by</u> <u>Ne</u>	Cu I	
		Resonance, E	2071
		Stark, E	1238, 1546, 1547
		Stark, T	2040
		Stark, T,E	508
		Van der Waals, E	1546 <u>by</u> <u>Air</u> 1236 <u>by</u> <u>Ar-H₂</u> 1236 <u>by</u> <u>C₂H₂-O₂</u> 1236 <u>by</u> <u>H₂-O₂</u>

*The numbers refer to paper identification numbers of Part 3.

DescriptionReference No.***D (Deuterium)**

D I

Van der Waals, E 2080,2151 by Ar
2080 by Ne

F (Fluorine)

F I

Stark, E 1992

Fe (Iron)

Fe I

Stark, E 582
Van der Waals, E 1534 by Ar
2122 by He

H (Hydrogen)

H I

Resonance, E 1946
Resonance, T 2159
Stark, C 2164
Stark, E 1885,1886,1916,1931,
1963,2061,2079,2112,
2128,2143,2144
Stark, T 1519,1687,1910,1911,
1936,1943,1990,2009,
2030,2035, 2077,2127,
2138,2145,2160
Stark, T,C 1928
Stark, T,E 2135
Van der Waals, E 2151 by Ar

DescriptionReference No.*

Van der Waals, T 2117 by Ar
2117 by He
2117 by Kr
2117 by Ne

He (Helium)

He I

Stark, E 1878,1886,1949
Stark, T 1853,1952,1953,
1957,2146
Stark, T,C 2002
Stark, T,E 1701,1851,2083,
2149
Van der Waals, E 1870 by He
1912 by Ne
Van der Waals, T 1856,2124 by He
Stark-Doppler, T 2056
Stark- Zeeman, T,E 1976

He II

Stark, C 1932
Stark, E 1841,1878,2073,
2129
Stark, T 1988

Hg (Mercury)

Hg I

Resonance, T 1954
Resonance, T,E 2037
Stark, E 1679
Van der Waals, E 547,1533 by Ar
1357 by Cd
1533 by C-C₄F₈

*The numbers refer to paper identification numbers of Part 3.

<u>Description</u>	<u>Reference No.*</u>	<u>Description</u>	<u>Reference No.*</u>
Van der Waals, E (cont.)	1359 by <u>D₂</u>	Van der Waals, E (cont.)	1236 by <u>H₂-O₂</u>
	1359 by <u>H-D</u>		2017 by <u>Kr</u>
	547, 1533, 2060 by <u>He</u>	Van der Waals, T	1364, 1543, 2132
	1359, 1533, 2060 by <u>H₂</u>		by <u>Ar</u>
	547 by <u>Kr</u>		2051 by <u>H</u>
	1357 by <u>Mg</u>		1364, 1543, 2132
	547, 1533 by <u>Ne</u>		by <u>He</u>
	1533 by <u>N₂</u>		1364, 1543, 1980,
	1359 by <u>T₂</u>		1989, 2132 by <u>Kr</u>
	547 by <u>Xe</u>		1364, 1543, 2132
	1357 by <u>Zn</u>		by <u>Ne</u>
Van der Waals, T	2132 by <u>Ar</u>		1364, 1543, 1989,
	2132 by <u>He</u>		2132 by <u>Xe</u>
	2132 by <u>Kr</u>	Van der Waals, T, E	2012 by
	2132 by <u>Ne</u>		<u>Acetylene-air</u>

In (Indium)

	In I	
Van der Waals, E	1929 by <u>Air-C₂H₂</u>	
	1929 by <u>Ar-O₂-H₂</u>	
	1929 by <u>N₂O-C₂H₂</u>	
Van der Waals, T	2132 by <u>Ar</u>	
	2132 by <u>Ne</u>	

K (Potassium)

	K I	
Resonance, E	2055	
Van der Waals, E	2017 by <u>Ar</u>	
	1236 by <u>Ar-H₂</u>	
	2055 by <u>Cs</u>	
	1236 by <u>C₂H₂-O₂</u>	
	1951 by <u>He</u>	

Kr (Krypton)

	Kr I	
Resonance, E	2136	
Van der Waals, E	1544 by <u>Ar</u>	
	1544 by <u>D₂</u>	
	1544 by <u>He</u>	
	1544 by <u>H₂</u>	
	1544 by <u>Ne</u>	
	1544 by <u>Xe</u>	
Van der Waals, T	2132 by <u>Ar</u>	
	1857, 2048, 2132	
	by <u>He</u>	
	2132 by <u>Kr</u>	
	1857, 2132 by <u>Ne</u>	
	2132 by <u>Xe</u>	

*The numbers refer to paper identification numbers of Part 3.

Description Reference No.*

Li (Lithium)

Li I

Stark, E	1230, 1288, 1919, 2150
Stark, T	1957, 2053
Stark, T, E	508, 866
Van der Waals, E	2120 <u>by Ar</u>
	1236 <u>by Ar-H₂</u>
	1236 <u>by C₂H₂-O₂</u>
	2120 <u>by He</u>
	1236 <u>by H₂-O₂</u>
Van der Waals, T	1364, 1543 <u>by Ar</u>
	2051 <u>by H</u>
	1364, 1543, 2014 <u>by He</u>
	1364, 1543, 1989 <u>by Kr</u>
	1364, 1543 <u>by Ne</u>
	1364, 1543, 1989 <u>by Xe</u>
Van der Waals, T, E	2012 <u>by Acetylene-air</u>

Mg (Magnesium)

Mg I

Stark, E	1958
Stark, T	1535
Van der Waals, E	1236 <u>by Ar-H₂</u>
	1236 <u>by C₂H₂-O₂</u>
	1236 <u>by H₂-O₂</u>

Mg II

Stark, E	1958, 2046
Stark, T	2137
Stark, T, E	1984, 1985, 2049

Description Reference No.*

Mn (Manganese)

Mn I

Stark, E	582
Van der Waals, E	1876, 2155 <u>by Ar</u>
	1876, 2155 <u>by He</u>
	2155 <u>by H₂</u>
	1876, 2155 <u>by N₂</u>

N (Nitrogen)

N II

Stark, T	2137
Stark-Natural, T	2038

Na (Sodium)

Na I

Resonance, E	1871
Stark, T, E	508
Van der Waals, E	1871, 2120 <u>by Ar</u>
	1236 <u>by Ar-H₂</u>
	1236 <u>by C₂H₂-O₂</u>
	1871, 2120 <u>by He</u>
	1871 <u>by Hg</u>
	1236 <u>by H₂-O₂</u>
	1871 <u>by Xe</u>
	1871 <u>by Xe-Hg</u>
Van der Waals, T	1364, 1543, 2132 <u>by Ar</u>
	1867, 2007, 2051 <u>by H</u>
	1364, 1543, 1987,
	2006, 2007, 2050,
	2132 <u>by He</u>

*The numbers refer to paper identification numbers of Part 3.

<u>Description</u>	<u>Reference No.*</u>
Van der Waals, T (cont.)	1364, 1543, 1989, 2132 <u>by Kr</u> 1364, 1543, 2132 <u>by Ne</u> 1364, 1543, 1989, 2132 <u>by Xe</u>
Van der Waals, T,E	1537 <u>by He</u> 508 <u>by Na</u> 2012 <u>by Acetylene-air</u>

Ne (Neon)

	Ne I
Van der Waals, E	1847, 2022, 2084 <u>by He</u> 1993, 1994 <u>by He-Ne</u> 1847, 2022 <u>by Ne</u>
Van der Waals, T,E	1843, 1927 <u>by He</u>

Ni (Nickel)

	Ni I
Stark, T,E	508
Van der Waals, E	1236 <u>by Ar-H₂</u> 1236 <u>by C₂H₂-O₂</u>

Pb (Lead)

	Pb I
Resonance, E,C	1882
Van der Waals, E	1965 <u>by Ar</u> 1965 <u>by He</u> 1965 <u>by H₂</u> 1965 <u>by Kr</u> 1965 <u>by Ne</u> 1965 <u>by N₂</u>

<u>Description</u>	<u>Reference No.*</u>
Van der Waals, E (cont.)	1965 <u>by Xe</u>
Van der Waals, T,E	2016 <u>by Kr</u>

Rb (Rubidium)

	Rb I
Resonance, E	1998
Van der Waals, E	1861, 2148 <u>by Ar</u> 1236 <u>by Ar-H₂</u> 1236 <u>by He</u> <u>C₂H₂-O₂</u> 1861 <u>by He</u> 1236 <u>by H₂-O₂</u> 1861 <u>by Kr</u> 1861 <u>by Ne</u> 1861 <u>by N₂</u>
Van der Waals, T	1364, 1543, 2047, 2132 <u>by Ar</u> 1364, 1543, 2132 <u>by He</u> 1364, 1543, 1989, 2132 <u>by Kr</u> 1364, 1543, 2132 <u>by Ne</u> 1364, 1543, 1989, 2132 <u>by Xe</u>
Van der Waals, T,E	1997 <u>by Ar</u> 1997 <u>by Ne</u> 2012 <u>by Acetylene-air</u>

S (Sulfur)

	S II
Stark, T	2137

*The numbers refer to paper identification numbers of Part 3.

DescriptionReference No.***Si (Silicon)**

Si I

Stark, T 2087

Van der Waals, E 1959 by Ar

Si II

Stark, E 1939

Stark, T 2087, 2137

Stark-Natural, T 2038

Si III

Stark, T 2087

Stark-Natural, T 2038

Si IV

Stark-Natural, T 2038

Sn (Tin)

Sn I

Van der Waals, E,C 1882 by Pb**Sr (Strontium)**

Sr I

Doppler, T 1948

Stark, T 1948

Van der Waals, E 1978, 2119 by Ar1236 by Ar-H₂1236 by C₂H₂-O₂2119 by He1978 by H₂1978 by N₂1978 by O₂DescriptionReference No.*

Sr II

Stark, E 2046

Van der Waals, E 2120 by Ar2120 by He**T (Tritium)**

T I

Van der Waals, E 2151 by Ar**Tl (Thallium)**

Tl I

Resonance, E 1982

Resonance, T 2031

Stark, T,E 508

Van der Waals, E 1982, 2026 by Ar1982 by HeVan der Waals, T 2031, 2132 by Ar2031, 2132 by He2132 by Kr2132 by Ne2031 by Tl-He2132 by Xe**Xe (Xenon)**

Xe I

Stark, E 1686, 2005, 2023

Van der Waals, E 1235, 1240, 1544,

1675 by Ar1544 by D₂

1235, 1240, 1544,

1675 by He

1235, 1240, 1544,

1675 by H₂

*The numbers refer to paper identification numbers of Part 3.

<u>Description</u>	<u>Reference No.*</u>
Van der Waals, E (cont.)	1544, 1675, 2116 <u>by</u> <u>Kr</u> 1235, 1544, 1675 <u>by</u> <u>Ne</u> 1240, 1544, 1675 <u>by</u> <u>N₂</u> 1675 <u>by</u> <u>Xe</u>
Van der Waals, T	2132 <u>by</u> <u>Ar</u> 2132 <u>by</u> <u>He</u> 2132 <u>by</u> <u>Kr</u> 2132 <u>by</u> <u>Ne</u> 2132 <u>by</u> <u>Xe</u>

<u>Description</u>	<u>Reference No.*</u>
Zn (Zinc)	
Zn I	
Stark, T	1535
Van der Waals, E	1236 <u>by</u> <u>Ar-H₂</u> 1236 <u>by</u> <u>C₂H₂-O₂</u> 1232, 1538 <u>by</u> <u>C₂H₂-O₂-N₂</u> 1236 <u>by</u> <u>H₂-O₂</u>

* The numbers refer to paper identification numbers of Part 3.

3. CHRONOLOGICAL LISTING OF ALL REFERENCES WITH FULL TITLES

1935

209. Chr. Fuchtbauer & H.-J. Reimers, Perturbation of High Cesium Terms by Hydrocarbons and Measurement of the 1s-3p Doublet of the High Potassium Series, Z. Phys. 97, 1. (Ger.)

1949

357. N. N. Sobolev, On the Problem of the Measurement of Flame Temperatures of Atomic Spectral Lines, Zh. Eksp. Teor. Fiz. 19, 25. (Russ.)

1953

434. S. Brodersen, Noise Filter Effects in Recording Spectroscopes, J. Opt. Soc. Amer. 43, 1216.

1954

459. A. R. Curtis & R. M. Goody, Spectral Line Shape and Its Effect on Atmospheric Transmissions, Quart. J. Roy. Meteorol. Soc. 80, 58.
460. A. R. Curtis & R. M. Goody, Correspondence Reply, Quart. J. Roy. Meteorol. Soc. 80, 454.

1955

486. V. S. Fursov, M. N. Oganov, & A. R. Striganov, Broadening of Spectral Lines and Oscillator Strength of the Noble Gases, Dokl. Akad. Nauk SSSR 101, 453. (Russ.)

487. W. E. Smith, Time Delays of Spectrograph Outputs by Low-Pass Filters, J. Opt. Soc. Amer. 45, 227.

1956

508. V. F. Kitaeva, Investigation of the Shape and Width of Spectral Lines in an Electric Arc of Constant Current, Tr. Fiz. Inst., Akad. Nauk SSSR 11, 3. (Russ.)
509. J. P. Wittke & R. H. Dicke, Redetermination of the Hyperfine Splitting in the Ground State of Atomic Hydrogen, Phys. Rev. 103, 620.

1957

547. K. M. Baird & D. S. Smith, Measurement By Photoelectric Fringe Scanning of the Pressure Shift of Hg-198 Emission Lines, Can. J. Phys. 35, 455.
548. G. Ecker, The Microfield Considered as an Entity with Coulomb Interaction, Z. Phys. 148, 593. (Ger.)

1958

582. I. M. Nagibina, Determination of the Concentration of Atoms in an Arc Discharge Plasma of Varying Current by the Width of Spectral Lines, Opt. Spektrosk. 4, 430. (Russ.)

1959

623. D. W. Posener, The Shape of Spectral Lines: Tables of the Voigt Profile, Aust. J. Phys. 12, 184.

1960

677. A. Misiunas & V. Norkunas, Influence of Temperature on the Pressure Broadening of the Resonance Line of Cd 3261 Å, Vilniaus Valstybinio Univ., Mokslo Darbai 33, 135. (Lith.)

1961

737. K. Frei & Hs. H. Günthard, Distortion of Spectral Line Shapes by Recording Instruments, J. Opt. Soc. Amer. 51, 83.

1963

866. L. I. Grechikhin, Determination of the Concentration of Charged Particles and Neutral Atoms by Self-Inverted Contours of Spectral Lines in Plasma, High Temp. (USSR) 1, 176.
867. W. R. Hindmarsh, Short-Range Forces Between Atoms, Phys. Lett. 7, 115.

1966

1117. S. Y. Ch'en & R. O. Garrett, Pressure Effects of Foreign Gases on the Absorption Lines of Cesium. I. The Effects of Argon on the First Two Members of the Principal Series, Phys. Rev. 144, 59; A 1, 975 (1970).
1118. L. I. Grechikhin & D. K. Skutov, Using the Broadening and Shifts of the Spectral Lines of Cesium for Determining the Concentrations of Charged Particles and Neutral Atoms in a DC Arc Plasma, J. Appl. Spectrosc. (USSR) 4, 279.
1119. B. L. Hunt & M. Sibulkin, Radiative Transfer in a Gas of Uniform Properties in Local Thermodynamic Equilibrium Part 1: Absorption Coefficients in Nonhydrogenic Gases, Brown University, Division of Engineering, Report No. Nonr-562(35)/16.
1120. L. Krause, Collisional Excitation Transfer Between the $^2P_{1/2}$ and $^2P_{3/2}$ Levels in Alkali Atoms, Appl. Opt. 5, 1375.
1121. M. Lapp, Collision Enforced Transitions in Cesium, Phys. Lett. 23, 553.
1122. N. G. Preobrazhenskii & G. A. Kolobova, On the Parametric Description of an Inhomogeneous, Optically Dense Plasma I. The Dispersion Shape of a Spectral Line, Sov. Phys. J. 9, No. 4, 52.
1123. N. G. Preobrazhenskii & G. A. Kolobova, On the Parametric Description of an Inhomogeneous, Optically Dense Plasma II. The Doppler Shape of a Spectral Line, Sov. Phys. J. 9, No. 4, 55.

1124. C. van Trigt, On the Theory of Pressure Broadening, *Physica (Utrecht)* 32, 571.

1125. J. D. Winefordner, W. W. McGee, J. M. Mansfield, M. C. Parsons, & K. E. Zacha, Intensity of Thermal Radiation of Metal Spectra in Flame Emission Spectrometry, *Anal. Chim. Acta* 36, 25.

1967

1228. P. Chamaraux, Calculation of Neutral Sodium Lines in the Solar Spectrum Without the Hypothesis of Local Thermodynamic Equilibrium, *Ann. Astrophys.* 30, 67. (Fr.)

1229. L. I. Grechikhin & E. S. Tyunina, Measuring Atomic Temperatures and Electronic Concentrations in Plasmas on the Basis of the Voigt Contours of Spectral Lines, *J. Appl. Spectrosc. (USSR)* 7, 4.

1230. L. I. Grechikhin & E. S. Tyunina, Examination of the Plasma in an Arc Discharge From the Emission Spectrum of Lithium, *High Temp. (USSR)* 5, 683.

1231. W. Happer & B. S. Mathur, Effective Operator Formalism in Optical Pumping, *Phys. Rev.* 163, 12.

1232. Tj. Hollander & H. P. Broida, Zeeman Scanning of Absorption Line Profiles in Flames, *J. Quant. Spectrosc. Radiat. Transfer* 7, 965.

1234. B. L. Hunt & M. Sibulkin, Radiative Transfer in Nitrogen for the Case of Uniform Properties and Local Thermodynamic Equilibrium, *J. Quant. Spectrosc. Radiat. Transfer* 7, 761.

1235. P. Marteau, R. Granier, H. Vu, & B. Vodar, Translation Spectra of the Xe-He, Xe-Ne, Xe-Ar, and Xe-H₂ Pairs; Their Possible Role in the Formation of Electronic "Satellite" Bands, *C.R.H. Acad. Sci., Ser. B* 265, 685. (Fr.)

1236. W. W. McGee & J. D. Winefordner, Measurement of the Damping Constant (The α -Parameter) of Several Elements in Several Hydrogen and Acetylene-Oxygen Flames Using an Absorption Method, *J. Quant. Spectrosc. Radiat. Transfer* 7, 261.

1238. G. V. Ovechkin & L. E. Sandrigailo, Line Broadening at High Copper Concentrations in an Arc Discharge, *J. Appl. Spectrosc. (USSR)* 7, 624.

1239. N. G. Preobrazhenskii, The Shape of a Reabsorptive Spectral Line Calculated by the Fermi Method, *Sov. Phys. J.* 10, No. 7, 37.

1240. J.-M. Rupin, M. Morlais, & S. Robin, Study of the Perturbation of the 1469.6 Å Resonance Line of Xenon by Various Gases Compressed from 0 to 500 atm, C.R.H. Acad. Sci., Ser. B 265, 1177. (Fr.)
1241. J. E. Stewart, Distortion of Infrared Spectra by Noise Filters, Infrared Phys. 7, 77.
1242. B. Z. Tambovtsev, A Multiray Approach to the Problem of Computing the Contour of a Reabsorbed Spectral Line of a Plasma, J. Appl. Spectrosc. (USSR) 7, 1.

1968

1288. R. von der Heyde & H. J. Kusch, Broadening of Lithium Lines by Microfields, Z. Astrophys. 68, 1; Jena Rev. 16, 36 (1971). (Ger., Eng.)
1357. G. I. Zav'yalov, A. Yu. Zav'yalo, N. A. Prilezhaeva, M. P. Belyaev, M. V. Gileva, & V. S. Grudanov, Broadening of Mercury 2537 Å Line in the Presence of Certain Metal Vapors, Sov. Phys. J. 11, No. 3, 97.
1358. T. L. Andreeva, The Diffusion Equation for the Density Matrix, Sov. Phys.-JETP 27, 342.
1359. J. Butaux & R. Lennuier, Comparative Effects of Different Molecules of Hydrogen on the Position and Profile of the $\lambda = 2537$ Å Line of Mercury, C.R.H. Acad. Sci., Ser. B 267, 36. (Fr.)
1360. L. de Galan & J. D. Winefordner, Slit Function Effects in Atomic Spectroscopy, Spectrochim. Acta, Part B 23, 277.
1361. L. I. Grechikhin, Limits of Applicability of Spectroscopic Methods in Determination of the Concentration of Charged Particles in a Low-Temperature Plasma and Their Errors, High Temp. (USSR) 6, 482.
1362. G. A. Kolobova, Derivation of the Shape of a Symmetrical Self-Reversed Line with Allowance for the Radial Dependence of the Plasma Parameters, Sov. Phys. J. 11, No. 5, 44.
1363. Y. Leycuras, Tentative Interpretation of the Effect of Temperature on the Shift and Broadening of the Cesium Line Perturbed by Xenon, C.R.H. Acad. Sci., Ser. B 267, 515. (Fr.)

1364. G. D. Mahan, Van der Waal's Constant between Alkali and Noble-Gas Atoms, J. Chem. Phys. 48, 950.
1365. B. S. Mathur, H. Tang, R. Bulos, & W. Happer, Microwave Light Modulation by an Optically Pumped Rb⁸⁷ Vapor, Phys. Rev. Lett. 21, 1035.
1366. N. G. Preobrazhenskii & N. Ya. Shaparev, Intensity and Shape Changes in Spectral Lines Caused by Deviation from a Maxwellian Electron Energy Distribution, Sov. Phys. J. 11, No. 6, 53.
1367. T. Yabuzaki & T. Ogawa, Double Resonance of Neon in He-Ne Laser Operating at 6328 Å π Transitions, J. Appl. Phys. 39, 4477.

1969

1376. N. G. Preobrazhenskii & T. A. Sharapova, Reabsorption Method Based on Recording of Contour Characteristics of Lines, J. Appl. Spectrosc. (USSR) 11, 853.
1519. D. Voslamber, Unified Model for Stark Broadening, Z. Naturforsch. A 24, 1458; 26, 1558 (1971).
1529. A. S. Bankovskii & P. A. Apanasevich, Effects of Strong Fields on the Shapes of Inhomogeneously Broadened Spectral Lines, J. Appl. Spectrosc. (USSR) 10, 313.
1530. A. Brissaud & U. Frisch, Influence of Time-Dependent Fluctuations of the Electric Microfield on the Stark Broadening of Emission Lines, C.R.H. Acad. Sci., Ser. B 268, 143. (Fr.)
1531. C. Cohen-Tannoudji, Light Shifts and Multiple Quantum Transitions, "Physics of the One- and Two-Electron Atoms," 326-340 (Ed. F. Bopp & H. Kleinpoppen, North-Holland Publ. Co., Amsterdam).
1532. V. V. Eliseev, Satellites of the Cs Absorption Lines in the Presence of Hg, Opt. Spectrosc. (USSR) 26, 266.
1533. A. Granzow, M. Z. Hoffman, & N. N. Lichtin, Satellite Emission at the 1849 Å Mercury Resonance Line, J. Chem. Phys. 51, 3621.

1534. G. L. Grasdalen, M. Huber, & W. H. Parkinson, Absolute gf -Values for Fe I and Fe II Lines, *Astrophys. J.* 156, 1153.
1535. L. I. Grechikhin, Plasma Diagnostics from Broadening of Spectral Lines in Nonuniform Interatomic Electric Fields, *J. Appl. Spectrosc. (USSR)* 11, 870.
1536. L. I. Grechikhin and V. V. Voinov, Error in the Determination of Charged-Particle Density in an Inhomogeneous Plasma Source on the Basis of Spectral-Line Broadening, *Sov. Phys. J.* 12, 1309.
1537. J. E. Grindlay, Measurements of the Van der Waals Na - λ 5889 in He with a Newly Developed Piston Compressor Light Source, Scientific Report No. 31, Harvard College Observatory Shock Tube Laboratory.
1538. Tj. Hollander & H. P. Broida, Zeeman Scanning of Hydroxyl and Zinc Absorption Line Profiles in Flames at Atmospheric and Reduced Pressure, *Combust. Flame* 13, 63.
1539. B. A. Khmelinin, Line Shape Distortion in Photographic Recording from an Oscillating Source, *J. Appl. Spectrosc. (USSR)* 11, 720.
1540. G. Khvostenko & M. Chaika, Line Width of Spontaneous Emission in a Gas Laser, *Opt. Spectrosc. (USSR)* 26, 268.
1541. H. G. Kuhn & E. L. Lewis, Resonance Broadening of Spectral Lines, "Polarisation, Matiere et Rayonnement," 341-356 (Presses Universitaires de France, Paris).
1542. E. V. Lugin, L. I. Nesmelova, & S. D. Tvorogov, Spectroscopic Saturation Effect in the Theory of Pressure-Induced Line Broadening, *Sov. Phys. J.* 12, 405.
1543. G. D. Mahan, Van der Waals Constant between Alkali and Noble-Gas Atoms. II. Alkali Atoms in Excited States, *J. Chem. Phys.* 50, 2755.
1544. M. Morlais, J.-M. Rupin, A. Quemerais, & S. Robin, Study of the Perturbation of Absorption Lines of Xenon and Krypton between 1150 and 1500 Å by Various Foreign Gases, *C.R.H. Acad. Sci., Ser. B* 269, 1223. (Fr.)
1545. A. F. Mukhamedgalieva, V. M. Tatarenkov, & A. N. Titov, Investigation of He-Ne Laser with an Absorbing Cell, *Izv. Vyssh. Ucheb. Zaved. Radiofiz.* 12, 1156. (Russ.)

1546. G. V. Ovechkin & L. E. Sandrigailo, Line Broadening and Shift in an Arc for Low Copper Contents, J. Appl. Spectrosc. (USSR) 10, 372.
1547. G. V. Ovechkin & L. E. Sandrigailo, Formation of the Spectral Lines of Copper in an Optically Dense Arc-Discharge Plasma, J. Appl. Spectrosc. (USSR) 10, 613.

1970

1555. A. S. Bazhov & A. V. Zherebenko, Linewidth Measurements in the Absorption Spectrum of Cadmium in a Flame, J. Appl. Spectrosc. (USSR) 12, 307.
1673. F. Besombes, J. Granier, & R. Granier, A Band Observed in Absorption between the Two Components of the First and Second Doublets of Cesium Perturbed by Rare Gases, Opt. Comm. 1, 388. (Fr.)
1675. M.-C. Castex, Absorption Spectra of Xenon in the Spectral Region 1250-1300 Å, C.R.H. Acad. Sci., Ser. B 270, 207. (Fr.)
1676. M. Cattani, Quantum Treatment of the Pressure Shift and Broadening of Spectral Lines, An. Acad. Brasil. Cienc. 42, 169.
1677. E. Churchwell & J. Edrich, Observations of Radio Recombination Lines at $\lambda = 18$ cm, Astron. Astrophys. 6, 261.
1678. J. W. Dufty, Ion Motion in Plasma Line Broadening, Phys. Rev. A 2, 534; 3, 522 (1971).
1679. V. T. Goloborod'ko, Apparatus and Methods for Determining Plasma Diagnostics by the Width and Shift of Spectral Lines, Teplofiz. Svoistva Nizkotemp. Plazmy, Mater. Vses. Teplofiz. Konf. Svoistvam Veshchestv Vys. Temp., 3rd 1968, 38-40 ("Nauka," Moscow). (Russ.)
1680. S. M. Golubovskaya, Yu. B. Golubovskii, & Yu. M. Kagan, A Spectroscopic Investigation of Plasma Parameters at the Outlet of a Plasmatron I. An Investigation of the Radial Distribution of Electron Density in Argon, Opt. Spectrosc. (USSR) 28, 122.
1681. N. Konjevic, P. Grujic, Lj. Cirkovic, & J. Labat, A Study of the Stark Broadening of Isolated Ion Lines in Plasma, Fizika, Suppl. 2, 81.

1682. N. Konjevic & M. Platisa, Measurements of the Stark Broadening Parameters of Several Cl I Lines, *Fizika*, Suppl. 2, 83.
1683. B. S. Mathur, H. Y. Tang, & W. Happer, Light Propagation in Optically Pumped Alkali Vapors, *Phys. Rev. A* 2, 648.
1684. J. C. Morris & R. U. Morris, Radiation Studies of Arc Heated Plasmas, Aerospace Research Laboratories Report No. ARL 70-0038.
1685. R. Pepperl, Relaxation of the 5^1P_1 Level of Cadmium by Impact with Noble Gas Atoms and Hydrogen Molecules, *Z. Naturforsch. A* 25, 927. (Ger.)
1686. J. Richou & A. Molitor, Determination of the Electron Density of a Xenon Plasma, Created in a Shock Tube, by Laser Interferometry and Spectroscopy, *C.R.H. Acad. Sci., Ser. B* 271, 753. (Fr.)
1687. E. G. Schmidt, H α as a Temperature Indicator in Cepheids, *Astrophys. J.* 162, 871.
1688. H. Tang & W. Happer, Parametric Frequency Conversion of Resonance Radiation in Optically Pumped Rubidium-87 Vapor, *Phys. Rev. Lett.* 24, 551.

1971

1701. B. Ya'akobi, E. V. George, G. Bekefi, & R. J. Hawryluk, Stark Profiles of Forbidden and Allowed Transitions in a Dense, Laser-Produced Helium Plasma, MIT Research Laboratory of Electronics, Quarterly Progress Report No. 102, 67.
1839. I. I. Antipova-Karataeva & N. N. Kazanova, Mathematical Separation of Complex Spectral Contours on Components with Partially Known Parameters, *Zh. Prikl. Spektrosk.* 14, 1093. (Russ.)
1840. V. M. Arkhipov & V. A. Rozuvanova, On Several Properties of the Theoretical Instrumental Function of the Complex S.I.S.A.M. and Fabry-Perot Spectrometer, *Zh. Prikl. Spektrosk.* 15, 1080. (Russ.)
1841. M. U. Beth, M. G. Kling, & P. Hoffmann, On the Possibility of Suprathermic Fluctuations in a Helium Arc Jet, "Proceedings of the Tenth International Conference on Phenomena in Ionized Gases," 380 (Donald Parsons & Co., Ltd., Oxford, England).

1842. V. S. Borodin, V. D. Gebekov, & Yu. M. Kagan, Plasma Diagnostics of a Pulsed Discharge in a Plasma I, *Opt. Spectrosc. (USSR)* 31, 280.
1843. A. Bouvier, M.-C. Bajard, & A. Bouvier, Influence of the Lorentz Effect on the Absorption of Resonance Radiation of the $\lambda = 743 \text{ \AA}$ Line of Neon for Low Pressures, *C.R.H. Acad. Sci., Ser. B* 272, 409. (Fr.)
1844. J. Butaux, E. Leboucher, & R. Lennuier, The Use of Distortions Introduced by Measuring Apparatus with the Object of Obtaining Certain Information About the True Signal, *Nouv. Rev. Opt. Appl.* 2, 279. (Fr.)
1845. D. G. Bykhovskii, S. M. Golubovskaya, Yu. B. Golubovskii, & Yu. M. Kagan, Spectroscopic Study of Plasmatron Output Parameters. II, *Opt. Spectrosc. (USSR)* 30, 450.
1846. H. Capes & D. Voslamber, Electron Correlations in Unified Line Shapes, "Proceedings of the Tenth International Conference on Phenomena in Ionized Gases," 381 (Donald Parsons & Co., Ltd., Oxford, England).
1847. C. G. Carrington & A. Corney, Pressure Broadening of the Hanle Effect in a Neon Discharge, *J. Phys. B* 4, 849.
1848. M. Cattani, Pressure Line Shape and the Dicke Effect, *Rev. Brasil. Fis.* 1, 351.
1849. M. Cattani, Pressure Broadening and Shift in Microwave and Far Infra-Red Regions, *An. Acad. Brasil. Cienc.* 43, 51.
1850. M. Chaika, Narrowing of the Profile of a Spectral Line by Alignment in the Case of Radiation Trapping, *Opt. Spectrosc. (USSR)* 31, 274.
1851. J. Chapelle, C. Diatta, M. Malinovsky, & S. Sahal-Brechot, Theoretical and Experimental Study of Profiles of Isolated Lines of He I in a Helium Arc Plasma Jet, "Proceedings of the Tenth International Conference on Phenomena in Ionized Gases," 383 (Donald Parsons & Co., Ltd., Oxford, England).
1852. W. R. Chappell, J. Cooper, & E. W. Smith, The Role of Plasma Kinetic Theory in Spectral Line Shapes, "Kinetic Equations," Paper B-3, 99-109 (Ed. R. L. Liboff & N. Rostoker, Gordon and Breach Science Publishers, New York).

1853. G. Coulaud, C. Deutsch, & M. Sassi, Influence of Distant Electron Collisions on the Plasma-Broadened $4471.48 \text{ \AA}$ He I Line, "Proceedings of the Tenth International Conference on Phenomena in Ionized Gases," 378 (Donald Parsons & Co., Ltd., Oxford, England).
1854. C. R. Cowley, An Approximate Stark Broadening Formula for Use in Spectrum Synthesis, Observatory 91, 139.
1855. R. D. Davies, Observations of Radio Recombination Lines with $\Delta n = 1$ to 5, Astrophys. J. 163, 479.
1856. C. M. Dutta & N. C. Dutta, Dipole Properties of the Metastable 2^3S State of Helium, Int. J. Quantum Chem. Symp. No. 5, 59.
1857. R. J. Dyne, Determination of Interatomic Potentials, Proc. Astron. Soc. Australia 2, 38.
1858. E. S. Ensberg & C. L. Morgan, Jr., Coherence Transfer and Frequency Shifts in Spin-Exchange Collisions, Phys. Rev. A 3, 2143.
1859. Yu. V. Evdokimov & N. I. Kaliteyevskii, Relation Between the Optical Broadening and Depolarization of Spectral Lines Due to Collisions, Opt. Spectrosc. (USSR) 31, 346.
1860. L. de Galan & H. C. Wagenaar, The Profile of Atomic Spectral Lines, Method. Phys. Anal., Numero Special, 10.
1861. V. V. Gershun, V. Khutorshchikov, & N. N. Yakobson, Displacement of the $7947 \text{ \AA}$ Line of Rubidium by Foreign Gases, Opt. Spectrosc. (USSR) 31, 470.
1862. B. Gurkut, J.-P. Schermann, & C. Audoin, Shift of the Hyperfine Transition Frequency of Atomic Hydrogen, Under the Effect of a Coherent Perturbation and in the Presence of Relaxation, C.R.H. Acad. Sci., Ser. B 272, 739. (Fr.)
1863. W. W. Jones, S. M. Benett, & H. R. Griem, Calculated Electron Impact Broadening Parameters for Isolated Spectral Lines from the Singly Charged Ions: Lithium Through Calcium, University of Maryland Technical Report No. 71-128.
1864. V. F. Kitaeva, Yu. I. Osipov, & N. N. Sobolev, Widening of Spectral Lines in an Ar^+ Laser, IEEE J. Quantum Electron. QE-7, 391.

1865. N. Konjevic, M. Platisa, & J. Puric, Stark Broadening of Cl II Lines, "Proceedings of the Tenth International Conference on Phenomena in Ionized Gases," 382 (Donald Parsons & Co., Ltd., Oxford, England).
1866. V. S. Lisitsa, Hydrogen Atom in a Rotating Electric Field, Opt. Spectrosc. (USSR) 31, 468.
1867. L. F. McNamara, Broadening of the Solar Sodium D-Lines by Atomic Hydrogen, Proc. Astron. Soc. Australia 2, 40.
1868. I. D. Molodenkova & I. F. Kovalev, The Computer Algorithm for Separating the Overlapping Contours of Spectral Lines, Izv. Vyssh. Ucheb. Zaved., Fiz. No. 4, 157. (Russ.)
1869. J. C. Morris & J. M. Yos, Radiation Studies of Arc Heated Plasmas, Aerospace Research Laboratories Report ARL-71-0317.
1870. A. F. Mukhamedgalieva, V. M. Tatarenkov, A. N. Titov, & A. V. Uspensky, Study of the Ne²⁰ 3s₂ - 3p₄ Laser Transition, Opt. Spectrosc. (USSR) 30, 431.
1871. N. Ozaki, Resonance Radiations from High-Pressure Sodium Plasma, J. Quant. Spectrosc. Radiat. Transfer 11, 1463.
1872. I. V. Peysakhson & V. A. Yefimov, Computer Analysis of the Instrument Function of Slit-Type Spectral Instruments, Sov. J. Opt. Technol. 38, 148.
1873. P. Platz, Experimental Study of the Shift of Levels and the Raman Effect of an Atom Subjected to Non-Resonant Radiation of a High-Power Laser, J. Phys. (Paris) 32, 773. (Fr.)
1874. T. Ya. Popova & A. K. Popov, Spectral Line Contour for an Optical Transition During Resonance with a Strong Field at an Adjacent Transition, Izv. Fiz. Inst. ANEB (At. Nauchnoeksp. Baza), Bulg. Akad. Nauk 21, 49. (Russ.)
1876. G. Pujol, P. Quercy, & S. Weniger, Experimental Study of Pressure Broadening and Shift of Manganese Resonance Lines, "Proceedings of the Tenth International Conference on Phenomena in Ionized Gases," 379 (Donald Parsons & Co., Ltd., Oxford, England).
1877. J.-L. Queffelec, M. Girault, & D. Louër, Influence of the Apparatus Function of a Spectrometer on the Broadening of the Emission Line Profiles of an Argon Plasma, C.R.H. Acad. Sci., Ser. B 273, 649. (Fr.)

1878. N. A. Razmadze, Z. D. Chkuaseli, & G. V. Sholin, Investigation of Some Properties of a Dense Helium Plasma During Recombination, Zh. Prikl. Spektrosk. 14, 30. (Russ.)
1879. V. V. Rozhkov, The Intensities of the Stark Components of a Hydrogen Atom in a Coulomb Field, Zh. Prikl. Spektrosk. 15, 697. (Russ.)
1880. M. L. Sosinskii, E. N. Morozov, & V. T. Selyavskii, Width of the Cd 3261 Å Spectral Line in Sensitized Fluorescence of Hg-Cd, Opt. Spectrosc. (USSR) 30, 517.
1881. K.-H. Spatschek, The Electric Microfield Distribution in Stationary Turbulent Plasmas, "Proceedings of the Tenth International Conference on Phenomena in Ionized Gases," 338 (Donald Parsons & Co., Ltd., Oxford, England).
1882. C. Triche, Study of the Broadening of an Absorption Line Produced by Collisions with Foreign Atoms and Those of the Same Type, C.R.H. Acad. Sci., Ser. C 273, 1722. (Fr.)
1883. S. D. Tvorogov & V. V. Fomin, Inclusion of the Velocity Distribution of Molecules in the Problem of Shape of Spectral Line Wings, Opt. Spectrosc. (USSR) 31, 554.
1884. O. K. Voitsekhovskaya & S. D. Tvorogov, The Transparency Function for the Model Representation of the Atmospheric Gases Spectra with the Voigt Line Shape, Izv. Vyssh. Ucheb. Zaved., Fiz. No. 4, 159. (Russ.)
1885. W. L. Wiese & D. E. Kelleher, Asymmetries in Stark-Broadened Balmer Lines, "Proceedings of the Tenth International Conference on Phenomena in Ionized Gases," 377 (Donald Parsons & Co., Ltd., Oxford, England).
1886. E. K. Zavoiskii, B. A. Demidov, Yu. G. Kalinin, A. G. Plakhov, L. I. Rudakov, V. D. Rusanov, V. A. Skoryupin, G. E. Smolkin, A. V. Titov, S. D. Fanchenko, V. V. Shapkin, & G. V. Sholin, Advances in Research on Turbulent Heating of a Plasma, "Plasma Physics and Controlled Nuclear Fusion Research," Vol. II, 3-24 (International Atomic Energy Agency, Vienna). (Russ.)

1972

1907. V. A. Alekseev, T. L. Andreeva, & I. I. Sobel'man, The Quantum Kinetic Equation Method for Atoms and Molecules and Its Application to the Calculation of Optical Characteristics of Gases, Sov. Phys.-JETP 35, 325.

1908. E. A. Asmaryan & G. N. Khlybov, The Influence of Collisions on the Shape of Spectral Lines in a Gas, Vestn. Mosk. Univ., Fiz., Astron. 13, 407. (Russ.)
1909. A. K. Atakan & H. C. Jacobson, Comparison of Experimental and Theoretical Pressure-Broadened Atomic Line Shapes, J. Quant. Spectrosc. Radiat. Transfer 12, 289.
1910. M. E. Bacon, On the Stark Broadening of Lyman- β , J. Quant. Spectrosc. Radiat. Transfer 12, 519.
1911. M. E. Bacon, On the Asymmetry of Lyman- α in a Dense Hydrogen Plasma, Phys. Lett. A 41, 43.
1912. R. Barbe, F. Laloë, & M. Leduc, Depolarization of the Metastable 2^3S_1 Level of ^4He by Quasi-Resonant Collisions with Neon; Influence of Temperature, C.R.H. Acad. Sci., Ser. B 274, 645. (Fr.)
1913. J. M. Bassalo & M. Cattani, Broadening and Shift of Atomic Lines Produced by Fast Electron Collisions, Can. J. Phys. 50, 151.
1914. G. Bekefi, Optical Transitions Stimulated by Plasma Turbulence, Comments Plasma Phys. Contr. Fusion 1, 9.
1915. Y. Ben-Aryeh & A. Sorgen, Foreign-Gas Broadening of Molecular Spectral Lines, Phys. Rev. A 5, 1967.
1916. R. D. Bengtson & G. R. Chester, Observations of Shifts of Hydrogen Lines, Astrophys. J. 178, 565.
1917. P. R. Berman, Quantum-Mechanical Transport Equation for Atomic Systems. II. Inelastic Collisions and General Line-Shape Considerations, Phys. Rev. A 6, 2157.
1918. P. R. Berman, Speed-Dependent Collisional Width and Shift Parameters in Spectral Profiles, J. Quant. Spectrosc. Radiat. Transfer 12, 1331.
1919. T. Biaz, J.-C. Valognes, & P. Mergault, Study of the $2p-4d$ ($4602.87 \text{ \AA}$) and $2p-4f$ ($4601.82 \text{ \AA}$) Lines of Li I Obtained by the Anode Effect, C.R.H. Acad. Sci., Ser. B 275, 21. (Fr.)
1920. E. Bielicz, E. Czuchaj, & J. Fiutak, The Impact and Doppler Broadening of Atomic Lines, Acta Phys. Pol. A 41, 327.

1921. L. A. Bogdanova & M. V. Podkladenko, Effect of the Molecular Velocity Distribution on the Absorption Function of an Individual Line, Opt. Spectrosc. (USSR) 33, 184.
1922. P. Bogen, Pressure Broadening of Multiply Ionized Carbon Lines, Z. Naturforsch. A 27, 210.
1923. M. Borenstein & W. E. Lamb, Jr., Effect of Velocity-Changing Collisions on the Output of a Gas Laser, Phys. Rev. A 5, 1311.
1924. V. S. Borodin, V. B. Gebekov, & Yu. M. Kagan, Plasma Diagnostics of a Pulsed Hydrogen Discharge. Part 3, Opt. Spectrosc. (USSR) 33, 15.
1925. V. S. Borodin, V. D. Gebekov, V. F. Gindina, & Yu. M. Kagan, Plasma Diagnostics of a Pulsed Hydrogen Discharge II, Opt. Spectrosc. (USSR) 32, 8.
1926. V. S. Borodin, V. D. Gebekov, & Yu. M. Kagan, Plasma Diagnostics in a Pulsed Discharge in a Mixture Containing Hydrogen, Opt. Spectrosc. (USSR) 32, 556.
1927. A. Bouvier, M. C. Bajard, A. Bouvier, & J. Janin, Study of the Lorentz Effect on the Absorption of the Resonance Line $\lambda = 743 \text{ \AA}$ of Neon for Various Pressures, J. Quant. Spectrosc. Radiat. Transfer 12, 279. (Fr.)
1928. M. Brocklehurst & M. J. Seaton, Observations of Radio Recombination Lines, Comments At. Mol. Phys. 3, 113.
1929. R. F. Browner & J. D. Winefordner, Temperature Effects in Pressure Broadening of Indium Spectral Lines in Flames, Spectrochim. Acta, Part B 27, 257.
1930. D. D. Burgess, Spectroscopy of Laboratory Plasmas, Space Sci. Rev. 13, 493.
1931. D. D. Burgess & R. Mahon, Observed Discrepancies in the Central Region of the H β Profile at Low Electron Densities, J. Phys. B 5, 1756.
1932. D. D. Burgess & T. J. McIlrath, Equality of Absorption and Emission Line Shapes for the Stark Broadened He II Resonance Line in a Helium Plasma, J. Phys. B 5, L220.
1933. C. F. Burrell & H.-J. Kunze, Observation of Resonance Scattering on Excited Helium Atoms in a Plasma Using a Tunable Dye Laser, Phys. Rev. Lett. 28, 1.

1934. C. F. Burrell & H.-J. Kunze, Two-Photon Absorption and Stimulated Raman Scattering on Excited Helium Atoms in a Plasma, Phys. Rev. Lett. 29, 1445.
1935. J. Butaux, F. Schuller, & R. Lennuier, Discussion of Collision Broadening and Shift of Some Resonance Lines in Terms of Anisotropic Interaction Potentials, J. Phys. (Paris) 33, 635. (Fr.)
1936. M. Caby-Eyraud & Nguyen-Hoe, About the Electronic Shifts of the Stark Broadened Lyman- α Lines, J. Phys. B 5, L153.
1937. H. Capes & D. Voslamber, Electron Correlations in the Unified Model for Stark Broadening, Phys. Rev. A 5, 2528; 6, 1689.
1938. M. Cattani, On the Calculation of the Pressure Line Shape in the Impact Approximation, Phys. Lett. A 38, 147.
1939. J. Chapelle & A. Czernichowski, Stark Broadening of the Spectral Lines 6371.4 and 6347.1 Å for Si II, Acta Phys. Pol. A 41, 753. (Fr.)
1940. M. R. Cherkasov, Effect of Contour Asymmetry on Intensity and Half-Width Determined from Measurements of Integral Absorption, Zh. Prikl. Spektrosk. 16, 866. (Russ.)
1941. G. Cheval, G. Fabre, M.-F. Farges, & R. Stringat, Study of the Profile of the Line $\lambda = 5876$ Å of Helium in the Emission of an After Discharge, C.R.H. Acad. Sci., Ser. B 274, 31.
1942. C. Cohen-Tannoudji & J. Dupont-Roc, Experimental Study of Zeeman Light Shifts in Weak Magnetic Fields, Phys. Rev. A 5, 968.
1943. A. Cohn, P. Bakshi, & G. Kalman, Linear Stark Effect Due to Resonant Interactions of Static and Dynamic Fields, Phys. Rev. Lett. 29, 324.
1944. J. Comer and F. H. Read, A Simple Method of Obtaining Resonance Energies from Broadened Profiles in Scattering Experiments, J. Phys. E 5, 211.
1945. D. O. Cooke, R. M. Dagnall, & T. S. West, Some Considerations on Spectral Line Profiles of Microwave-Excited Electrodeless Discharge Lamps, Talanta 19, 1309.
1946. S. B. Crampton, J. A. Duvivier, G. S. Read, & E. R. Williams, Frequency Shifts Due to Hydrogen-Hydrogen Spin-Exchange Collisions, Phys. Rev. A 5, 1752.

1947. E. I. Dashevskaya & E. A. Kobzeva, Calculation of Broadening and Displacement Cross Sections of Atomic Lines by the Sewing Method, Opt. Spectrosc. (USSR) 32, 557.
1948. J. Davis, Selected Atomic Parameters for Laser-Generated Barium Plasmas, J. Quant. Spectrosc. Radiat. Transfer 12, 1351.
1949. W. D. Davis, Spectroscopic Observations of Turbulence in a Fast Theta Pinch, Phys. Fluids 15, 2383.
1950. A. V. Demura & V. S. Lisitsa, Determination of Magnetic Fields in a Plasma from the Contour of Hydrogen Spectral Lines, Sov. Phys.-JETP 35, 1130.
1951. A. de Sa & D. G. McCartan, A Digitally Controlled Scanning Device for a High Resolution Spectrograph, J. Phys. E 5, 1183.
1952. C. Deutsch, G. Coulaud, & M. Sassi, Influence of Distant Electron Collisions on the Plasma-Broadened $4471.48 \text{ \AA}$ He I Line, Phys. Lett. A 40, 299.
1953. C. Deutsch, M. Sassi, & G. Coulaud, Off-Diagonal Matrix Elements in the Stark-Broadening Theory of Neutral Lines in Plasmas, Phys. Rev. A 6, 2484.
1954. B. M. Dodsworth, J. C. Gay, & A. Omont, Self-Broadening of the Level Crossing Curves Observed in Backscattering (The $6 \text{ } ^3\text{P}_1$ Level of Mercury), J. Phys. (Paris) 33, 65. (Fr.)
1955. B. Dubreuil, P. Ranson, & J. Chapelle, Effect of a CO_2 Laser Beam ($\lambda_0 = 10.59 \mu$) on the H_δ Line Emitted by a Low Pressure Hydrogen Discharge, Phys. Lett. A 42, 323.
1956. P. L. Dufton, An Observational Test of Hydrogen Line Broadening Theories, Astron. Astrophys. 18, 335.
1957. R. J. Dyne & B. J. O'Mara, A Convergent Theory of Spectral Line Broadening in the Impact Approximation, Astron. Astrophys. 18, 363.
1958. V. V. Kyukov, G. G. Ilin, & I. S. Fishman, Determination of Electron Concentration and Spectral Line Width of a Thin Film from Asymmetric Self-Reverse Spectral Lines, Opt. Spectrosc. (USSR) 32, 585.
1959. J. M. Evans, Jr. & J. Cooper, Determination of Van der Waals Broadening at Temperatures of Astrophysical Interest, J. Quant. Spectrosc. Radiat. Transfer 12, 259.

1960. M. Fabry & J. R. Cussenot, Spectroscopic Measurements of Parameters in a Low-Density Alkali-Metal Plasma, J. Appl. Phys. 43, 357.
1961. B. J. Feldman & M. S. Feld, Laser-Induced Line-Narrowing Effects in Coupled Doppler-Broadened Transitions. II. Standing-Wave Features, Phys. Rev. A 5, 899; 6, 851.
1962. J. R. Fuhr, W. L. Wiese, & L. J. Roszman, "Bibliography on Atomic Line Shapes and Shifts (1889 through March 1972)," Nat. Bur. Stand. (U.S.), Spec. Publ. 366.
1963. G. Fussmann, Measurement of the Line Profile of Lyman- α , Phys. Lett. A 41, 155.
1964. R. P. Futrelle, Unified Theory of Spectral Line Broadening in Gases, Phys. Rev. A. 5, 2162.
1965. H. M. Gibbs, Polarization of Pb Vapor. III. Collisional Quenching and Depolarization of Alignment of Pb Metastable and Excited States, Phys. Rev. A 5, 2408.
1966. V. L. Ginzburg, Line Width in the Spectrum of Scattered Light, Sov. Phys.-Usp. 15, 114.
1967. C. G. Gray, Classical Theory of Pressure Broadening, Amer. J. Phys. 40, 491.
1968. H. R. Griem, A Plasma Instability and the Structure of Stark-Broadened Hydrogen Lines, Comments At. Mol. Phys. 3, 181.
1969. H. R. Griem, Holtsmark's $5/2$ Power Law for the Wings of Stark-Broadened Hydrogen Lines, Comments At. Mol. Phys. 3, 121.
1970. T. J. Hammond & C. F. Gallo, Initial Afterglow of the Self-Absorbed Hg 2537 Å Radiation from Hg + Ar Discharges, Appl. Opt. 11, 729.
1971. W. Happer, Optical Pumping, Rev. Mod. Phys. 44, 169.
1972. K. G. Harstad, Rational Approximation for the Voigt Line Profile, J. Opt. Soc. Amer. 62, 827.
1973. J. B. Hearnshaw & E. G. Schmidt, H α Profiles for G-Type Dwarfs and Subgiants, Astron. Astrophys. 21, 111.

1974. R. E. M. Hedges, D. L. Drummond, & A. Gallagher, Extreme-Wing Line Broadening and Cs-Inert-Gas Potentials, *Phys. Rev. A* 6, 1519.
1975. S. Hess, Kinetic Theory of Spectral Line Shapes. The Transition between Doppler Broadening and Collisional Broadening, *Physica (Utrecht)* 61, 80.
1976. W. W. Hicks, R. A. Hess, & W. S. Cooper, Combined Zeeman and High-Frequency Stark Effects, with Applications to Neutral-Helium Lines Useful in Plasma Diagnostics, *Phys. Rev. A* 5, 490.
1977. W. R. Hindmarsh & J. M. Farr, Collision Broadening of Spectral Lines by Neutral Atoms, "Progress in Quantum Electronics," Vol. 2, Pt. 3, 143-214 (Ed. J. H. Sanders & S. Stenholm, Pergamon Press, Oxford).
1978. Tj. Hollander, P. L. Lijnse, L. P. L. Franken, B. J. Jansen, & P. J. Th. Zeegers, Quenching of Excited Strontium Atoms Measured in Flames, *J. Quant. Spectrosc. Radiat. Transfer* 12, 1067.
1979. H. Holweger, The Solar Abundance of Calcium and Collision Broadening of Ca I- and Ca II-Fraunhofer Lines by Hydrogen, *Solar Phys.* 25, 14.
1980. R. J. Hood & G. P. Reck, Binary Collision Broadening: Determination of Dispersion Forces, *J. Chem. Phys.* 56, 4053.
1981. G. Horlick, Resolution Enhancement of Line Emission Spectra by Deconvolution, *Appl. Spectrosc.* 26, 395.
1982. J. C. Hsieh & J. C. Baird, Level-Crossing Spectroscopy in 7^2S Thallium. I. Studies of Coherence-Narrowing, Collision-Broadening, and Buffer-Gas Effects, *Phys. Rev. A* 6, 141.
1983. H. C. Jacobson, Computation of Pressure Effects of Inert-Gas Mixtures on Atomic Line Shapes, *Phys. Rev. A* 5, 989.
1984. W. W. Jones, Measurement and Calculation of the Stark Broadening Parameter of Singly Ionized Calcium and Magnesium, University of Maryland Technical Report No. 72-051.
1985. W. W. Jones, A. Sanchez, J. R. Greig, & H. R. Griem, Measurement and Calculation of the Stark-Broadening Parameters for the Resonance Lines of Singly Ionized Calcium and Magnesium, *Phys. Rev. A* 5, 2318.

1987. S. A. Kandela & J. Szudy, On the Broadening of the Na-D₂ Line by He at High Temperatures, Bull. Acad. Pol. Sci., Ser. Sci. Math., Astron., Phys. 20, 515.
1988. P. C. Kepple, Improved Stark-Profile Calculations for the He II Lines at 256, 304, 1085, 1216, 1640, 3203, and 4686 Å, Phys. Rev. A 6, 1.
1989. J. F. Kielkopf, Forces between Excited Alkali Atoms and Noble Gases, Phys. Rev. A 5, 484.
1990. V. I. Kogan & V. S. Lisitsa, On the Adiabatic Approach in the Theory of Stark Broadening of Hydrogen Lines, J. Quant. Spectrosc. Radiat. Transfer 12, 881. (Russ.)
1991. V. I. Kogan & V. S. Lisitsa, Boundary of the Quasistatic Region of Electron Broadening of Hydrogen Lines in a Plasma, Opt. Spectrosc. (USSR) 32, 216.
1992. N. Konjevic, M. Platisa, & M. Popovic, Stark Broadening and Shift of Fluorine I Lines, Z. Phys. 257, 235.
1993. I. P. Konovalov, A. I. Popov, & E. D. Protsenko, Dependence of the $5s'[1/2]_1^0 - 4p'[3/2]_2$ Ne (3.39-μm) Line Width on the Composition of the Mixture in a He-Ne Discharge, Opt. Spectrosc. (USSR) 33, 109.
1994. I. P. Konovalov, A. I. Popov, & E. D. Protsenko, Measurement of Spectral Characteristics of the $5s'[1/2]_1^0 - 4p[3/2]_2$ Ne (3.39 μm) Transition, Opt. Spectrosc. (USSR) 33, 6.
1995. F. A. Korolev, S. S. Kartaleva, A. I. Odintsov, & E. A. Dmitrieva, Effect of a Laser Field on the Contour of the Amplification Line of an Adjacent Transition in an Argon Laser, Zh. Prikl. Spektrosk. 17, 980. (Russ.)
1996. I. I. Krykov & T. N. Popova, The Criterion of Non-Overlapping and Overlapping of Spectral Lines, Izv. Vyssh. Ucheb. Zaved. Fiz. No. 5, 47. (Russ.)
1997. E. V. Kulagin, G. A. Mishakov, & A. I. Pikhtelev, Influence of the Shift and Broadening of Rubidium Absorption Lines, Caused by Buffer Gases, on the Quality Parameter of the Rubidium Discriminator, Izv. Vyssh. Ucheb. Zaved., Radiofiz. 15, 1801. (Russ.)
1998. H. J. Kusch, H. Schreiber, & K. Wendt, Self-Broadening of Principal Series Lines of Rubidium at High Number Densities, Z. Phys. 255, 257. (Ger.)

1999. V. I. Lagutin, Effect of the Working Regions of Recording Systems on the Contour Distortion of Spectral Lines, Zh. Prikl. Spektrosk. 16, 25. (Russ.)
2000. F. Lambert, Calculation of the Relative Absorption of the 3889 and 10830 Å Lines of Helium by the Metastable He(2^3S) Atoms, C.R.H. Acad. Sci., Ser. B 274, 1406. (Fr.)
2001. R. Lee, A Two-Particle Green Function Self-Energy Expansion, J. Phys. A 5, 950.
2002. R. W. Lee, Ion Dynamic Correction to Forbidden Line Profiles, J. Phys. B 5, L23.
2003. R. W. Lee, Self-Energy Expansion for Line-Broadening, J. Phys. B 5, 1271.
2004. Y. C. Lee & D. L. Lin, Renormalized Frequency Shift of Coherent Radiation, Phys. Rev. A 6, 388.
2005. A. Lesage & J. Richou, Determination of Stark Constants of Xenon Lines, J. Quant. Spectrosc. Radiat. Transfer 12, 1313. (Fr.)
2006. E. L. Lewis & L. F. McNamara, Broadening of the D Lines and the Relaxation of the Resonance Levels of Sodium Due to Collisions with Helium, Phys. Rev. A 5, 2643.
2007. E. L. Lewis, L. F. McNamara, & H. H. Michels, The Broadening of the Sodium D-Lines, Solar Phys. 23, 287.
2008. V. S. Lisitsa, Combining the Quasistatic and Impact Approximations in the Theory of Hydrogen Line Broadening in a Plasma, Sov. Phys.-Dokl. 16, 1059.
2009. V. S. Lisitsa & G. V. Sholin, On the Stark Profile of the Ly- α Line in the Region of the Transition From Impact to Quasi-Statistical Broadening, J. Quant. Spectrosc. Radiat. Transfer 12, 985. (Russ.)
2010. V. S. Lisitsa & G. V. Sholin, Exact Solution of the Problem of the Broadening of the Hydrogen Spectral Lines in the One-Electron Theory, Sov. Phys.-JETP 34, 484.
2011. Yu. V. Lisyuk, Broadening and Narrowing of Monokinetic Atomic Beam Radiation by Amplification of the Natural Profile, Izv. Vyssh. Ucheb. Zaved., Fiz. No. 3, 123. (Russ.)
2012. B. V. L'vov, Application of Atomic Absorption Spectrometry in Physical and Chemical Research, J. Quant. Spectrosc. Radiat. Transfer 12, 651; Method. Phys. Anal. 8, 3. (Russ., Fr.)

2013. R. N. Madan, Fermi Pressure Shift and Electron-Rare-Gas-Atom Scattering Lengths, Phys. Rev. A 6, 1242.
2014. G. D. Mahan, Violet Satellite Bands in the Spectra of Li Perturbed by He, Phys. Lett. A 39, 145.
2015. G. D. Mahan, Satellite Bands in Alkali-Atom Spectra, Phys. Rev. A 6, 1273.
2016. F. Marechal & J. Grumberg, The Source of the Continuous Spectra Observed on Each Side of the Resonance Line of Lead in the Presence of Krypton, C.R.H. Acad. Sci., Ser. B 274, 347. (Fr.)
2017. D. G. McCartan, Non-Lorentzian Distributions in Impact Broadened Spectral Lines, Phys. Lett. A 42, 155.
2018. T. J. McIlrath & J. L. Carlsten, Populating Excited States of Incoherent Atoms Using Coherent Light, Phys. Rev. A 6, 1091.
2019. C. A. Mead, Resonance Absorption Line Shapes in Monatomic Gases: The Role of Off-Diagonal Resolvent Matrix Elements, Phys. Rev. A 5, 1957.
2020. R. E. Meredith, Strengths and Widths in the First Overtone Band of Hydrogen Fluoride, J. Quant. Spectrosc. Radiat. Transfer 12, 485.
2021. R. E. Meredith, A New Method for the Direct Measurement of Spectral Line Strengths and Widths, J. Quant. Spectrosc. Radiat. Transfer 12, 455.
2022. G. A. Mikhnenko, E. D. Protsenko, & E. A. Sedoi, Investigation of the 0.63- μm Line Shift in a He-Ne²⁰ Laser with an Absorption Cell, Opt. Spectrosc. (USSR) 32, 425.
2023. R. V. Mitin, A. V. Zvyagintsev, & K. K. Pryadkin, On the Broadening of Argon and Xenon Spectral Lines in Electrodeless Discharge Plasmas at High Pressures, Zh. Prikl. Spektrosk. 16, 541. (Russ.)
2024. I. D. Molodenkova & I. F. Kovalev, The Correctness of Setting a Problem on Separation of Overlapping Profiles for Spectral Lines, Izv. Vyssh. Ucheb. Zaved., Fiz. No. 3, 151. (Russ.)
2025. V. P. Myerscough & G. Peach, Pressure Broadening of Spectral Lines, "Case Studies in Atomic Collision Physics II," 336-353 (Ed. E. W. McDaniel & M. R. C. McDowell, North-Holland Publ. Co., Amsterdam).

2026. F. Naumann & K. W. Michel, Line Broadening for Transitions between Excited Levels of Ba and Tl by Rare Gases, *Z. Naturforsch. A* 27, 1459. (Ger.)
2027. K. Niemax, Satellites of Cs I Lines, *Phys. Lett. A* 38, 141.
2028. I. A. Novikov & V. R. Saulit, The Dependence of the Instrument Line Shape of a Spectrograph from its Ion-Optical Parameters (A Point Source) I., *Vest. Leningrad. Univ., Fiz. Khim.* No. 16, 46. (Russ.)
2029. J. T. O'Brien & C. F. Hooper, Jr., Low-Frequency Electric Microfield Distributions in a Plasma Containing Multiply Charged Ions, *Phys. Rev. A* 5, 867.
2030. E. A. Oks & G. V. Sholin, Boundary Determination for Electron Quasi-Stationarity Using the Asymmetry of the Wings of Hydrogen Spectral Line Profiles, *Opt. Spectrosc. (USSR)* 33, 217.
2031. A. Omont, J. C. Hsieh, & J. C. Baird, Level-Crossing Spectroscopy in $7^2S_{1/2}$ Thallium. II. Theory of Self-Broadening and Tl*-Tl-Foreign-Gas Collisions, *Phys. Rev. A* 6, 152.
2032. A. Omont, E. W. Smith, & J. Cooper, Redistribution of Resonance Radiation I. The Effect of Collisions, *Astrophys. J.* 175, 185.
2033. S. Pancharatnam, Theory of Dispersion in Relation to Light Shifts, *Proc. Roy. Soc., Ser. A* 330, 281.
2034. R. W. Parsons, V. I. Metchnik, & I. C. Story, Pressure Induced Shifts of the (J,K) = (12,12) Inversion Line in the Microwave Spectrum of Ammonia, *J. Phys. B* 5, 1221.
2035. G. Peach, The Broadening of Radio Recombination Lines by Electron Collisions, *Astrophys. Lett.* 10, 129.
2036. G. Peach & M. J. Seaton, Pressure Broadening of Radio Recombination Lines, *Comments At. Mol. Phys.* 3, 107.
2037. D. Perrin-Lagarde & R. Lennuier, Experimental Measurement of the Absorption Coefficient of Mercury Vapor in the Region of the Resonance Line $\lambda = 2537 \text{ \AA}$, *C.R.H. Acad. Sci., Ser. B* 274, 1020. (Fr.)
2038. E. Peytremann, Theoretical Effect of Various Broadening Parameters on Ultraviolet Line Profiles, *Astron. Astrophys.* 17, 76.

- 2 039. H. Pfennig, On the Time-Evolution Operator in the Semiclassical Theory of Stark-Broadening of Hydrogen Lines, J. Quant. Spectrosc. Radiat. Transfer 12, 821.
2040. G. Pichler, Quadratic Stark Constants of Neutral Copper and Silver Spectral Lines in the Coulomb Approximation, Fizika 4, 235.
- 2 041. A. Poquerusse, Stark Broadening of Hydrogenic Ion Lines, Phys. Lett. A 41, 453. (Fr.)
- 2 042. D. W. Posener, Filter Distortion of Spectral Lines, J. Appl. Phys. 43, 3117.
2043. S. G. Przhibelskii & V. A. Khodovoi, Absorption Line Profile of an Atom in a Field of Strong Noise Radiation, Opt. Spectrosc. (USSR) 32, 125.
2045. J. Puric, Experimental Study of Stark Broadening of Ion Lines in Plasmas, "Physics of Ionized Gases 1972," 521-558 (Ed. M. V. Kurepa, Institute of Physics, Beograd, Yugoslavia).
2046. J. Puric & N. Konjevic, Stark Shifts of Some Isolated Spectral Lines of Singly Ionized Earth Alkaline Metals, Z. Phys. 249, 440.
2047. S. Ray & S. L. Kaufman, Theoretical Interpretation of the Quadratic Hyperfine Pressure Shift, Phys. Rev. Lett. 29, 895.
2048. G. P. Reck & R. J. Hood, Binary Collision Broadening: Approximate Methods, J. Chem. Phys. 56, 1230.
2049. D. E. Roberts & A. J. Barnard, Check of Quantum-Mechanical Electron Broadening Calculations for Mg^+ and Ca^+ Resonance Lines, J. Quant. Spectrosc. Radiat. Transfer 12, 1205.
2050. E. Roueff, The Pressure Broadening of Na I 5889 Å and 5895 Å by Thermal and High Temperature Neutral Helium, J. Phys. B 5, L79.
2051. E. Roueff, Broadening of Alkali Lines by Atomic Hydrogen, Phys. Lett. A 38, 8.
2052. A. Royer, Cumulant Expansions and Pressure Broadening as an Example of Relaxation, Phys. Rev. A 6, 1741.

2053. M. Sassi, Determination of the Electronic Density of an Ionized Plasma Beginning with the Distance Between the Peaks of the "Allowed" Line of Li I ($2^2P - 4^2D$) (or Cs I ($5D_{3/2} - 6F$)) and of the "Forbidden" Line of Li I ($2^2P - 4^2F$) (or Cs I ($5D_{3/2} - 6G$)), J. Quant. Spectrosc. Radiat. Transfer 12, 75. (Fr.)
2054. M. Sassi & G. Coulaud, Calculated Ionic Profiles in the Region of the Forbidden Component Cs I ($6G - 5D$), J. Phys. B 5, L35.
2055. H. Schreiber & H. J. Kusch, Broadening of Principal Series Lines of Potassium by Potassium and Cesium Atoms at High Number Densities, Z. Phys. 253, 240. (Ger.)
2056. C. D. Scott, Calculation of Quasi-Static Helium Triplet Diffuse Line Profiles, NASA Technical Note TN D-6954.
2057. G. V. Sholin, A. V. Demura, & V. S. Lisitsa, Electron Impact Broadening of Stark Sublevels of the Hydrogen Atom in a Plasma, Ordena Lenina Institut Atomnoi Energii im. I. V. Kurchatova IAE-2232. (Russ.)
2058. E. W. Smith, J. Cooper, & C. R. Vidal, Comments on the Validity of the Unified Classical Path Theory of Stark Broadening, J. Phys. B 5, L33.
2059. G. Smith, Collision Broadening and Shift in the Resonance Line of Calcium, J. Phys. B 5, 2310.
2060. G. Stanzel, Level-Crossing Experiments in Selective Reflection from Mercury Vapour, Phys. Lett. A 41, 335.
2061. G. H. Stickford, Jr., Measurements of the H β Line Shape Using a Fiber Optics Slit System, AIAA J. 10, 1269.
2062. M. L. Strekalov & A. I. Burshtein, Collapse of Shock-Broadened Multiplets, Sov. Phys.-JETP 34, 53.
2063. V. Svoboda, R. F. Browner, & J. D. Winefordner, Analytical Curves in Atomic Fluorescence Spectrometry, Appl. Spectrosc. 26, 505.
2064. V. I. Sysun, Effective Probability of the Emission of Resonance Photons by Atoms in the Case of a Voigt Profile, Opt. Spectrosc. (USSR) 33, 320.
2065. R. C. Sze, E. T. Antropov, & W. R. Bennett, Jr., Lorentz Width Measurements on the Argon Ion Laser Transitions, Appl. Opt. 11, 197.

2066. R. C. Sze & W. R. Bennett, Jr., Spontaneous-Emission Profiles of Argon-Ion Laser Transitions, Phys. Rev. A 5, 837.
2067. J. Szoke, Computer Analysis of Spectra by Deconvolution, Chem. Phys. Lett. 15, 404.
2068. A. Tonejc, Measurements of Halfwidths of Certain Argon Lines, J. Quant. Spectrosc. Radiat. Transfer 12, 1713.
2069. A. M. Tonejc, K. Acinger, & V. Vujnovic, Measurements of Halfwidths of Some Argon Lines in a Wall-Stabilized Cascade Arc, J. Quant. Spectrosc. Radiat. Transfer 12, 1305.
2070. N. Tran-Minh & H. Van Regemorter, Quantum Theory of Stark Broadening by Electrons, J. Phys. B 5, 903.
2071. C. Triche & G. Perarnau, Spectrographic Study of the Emission of Exploding Wires Under Different Pressures, C.R.H. Acad. Sci., Ser. C 274, 1025. (Fr.)
2072. A. G. Velichko & V. I. Tsoi, Method of Determining Real Contour Parameters from the Observed Contour for Instruments with a Periodic Instrument Function, Opt. Spectrosc. (USSR) 32, 102.
2073. S. Volonte, Plasma Polarization Shift of the Resonance Lines of Ionized Helium, Space Sci. Rev. 13, 528.
2074. E. S. Vorobeichikov, B. N. Poizner, L. N. Popov, & V. D. Fomin, The Peculiarities of Dispersion in a Gaseous Medium with a Broadened Spectral Line of Radiation, Izv. Vyssh. Ucheb. Zaved., Fiz. No. 4, 157. (Russ.)
2076. D. Voslamber, Unified Quantum Statistical Formulation of Pressure Broadening, Phys. Lett. A 40, 266.
2077. D. Voslamber, Influence of Time Ordering on Unified Line Profiles, Z. Naturforsch. A 27, 1783.
2078. W. L. Wiese, Experimental Studies of the Stark Broadening of Hydrogen Lines, "Physics of Ionized Gases 1972," 559-596 (Ed. M. V. Kurepa, Institute of Physics, Beograd, Yugoslavia).

2079. W. L. Wiese, D. E. Kelleher, & D. R. Paquette, Detailed Study of the Stark Broadening of Balmer Lines in a High-Density Plasma, Phys. Rev. A 6, 1132.
2080. J. J. Wright, Hyperfine Temperature Shift of Deuterium in Neon and Argon, Phys. Rev. A 6, 524.
2081. J. M. Wu & D. T. Shaw, Forbidden Line Intensities in Cesium Plasmas, Energy Convers. 12, 77.
2082. B. Ya'akobi, On the Broadening of Atomic Levels Due to Absorption of Radiation, J. Quant. Spectrosc. Radiat. Transfer 12, 1077.
2083. B. Ya'akobi, E. V. George, G. Bekefi, & R. J. Hawryluk, Stark Profiles of Forbidden and Allowed Transitions in a Dense, Laser Produced Helium Plasma, J. Phys. B 5, 1017.
2084. T. Yabuzaki, N. Mita, & T. Ogawa, Pressure Shift of the Magnetic Resonance Line of Neon in a He-Ne Laser, Phys. Rev. Lett. 29, 336.
2085. G. Yamamoto & T. Aoki, Line Broadening Theory of Asymmetric-Top Molecule, J. Quant. Spectrosc. Radiat. Transfer 12, 227.
2086. K. Yoshikawa & I. Michiyoshi, The Influence of Spatial Temperature Distribution and Measuring Configuration on Line-Reversal Temperature, J. Quant. Spectrosc. Radiat. Transfer 12, 1673.
2087. E. A. Yukov, Stark Broadening of Si II and Si III Lines, Sov. Astron.-AJ 15, 867.
2088. H. R. Zaidi, Coherent Radiation Damping, Can. J. Phys. 50, 1427.
2089. H. R. Zaidi, Excitation Transfer Process in Self-Broadening, Can. J. Phys. 50, 2801.
2090. H. R. Zaidi, Velocity Dependence of the Scattering Amplitudes in Resonant Collisions, Can. J. Phys. 50, 1175.
2091. H. R. Zaidi, Collisional Narrowing and the Foreign Gas Broadening of Spectral Line Shapes, Can. J. Phys. 50, 2792.

2111. D. Alger, G. F. Kirkbright, & O. E. Troccoli, Absorption Half-Widths for the 422.67 nm Calcium Line in Hydrogen-Nitrogen and Hydrogen-Argon Diffusion Flames, Appl. Spectrosc. 27, 177.
2112. V. I. Arkhipenko, V. N. Budnikov, & V. I. Varfolomeev, Determination of Field Strength in A Microwave--Plasma Interaction by Means of the Stark Effect, Sov. Phys.-Tech. Phys. 17, 1311.
2113. A. K. Atakan & H. C. Jacobson, Theory of Satellite Structures on Spectral-Line Profiles, Phys. Rev. A 7, 1452.
2114. K. W. Billman & J. R. Stallcop, Measurement of Density and Temperature of a Hydrogen Plasma Using an Argon Laser, Appl. Phys. Lett. 22, 565.
2115. C. Bottcher, A Unified Calculation on the Stark Broadened Profile of Lyman-alpha, J. Phys. B 6, L54.
2116. J. Brochard, D. Reymann, & R. Vetter, On Particular Aspects of the Competition Between Stimulated Emission and Absorption in the 3.36 μ m Xenon Line Profile, J. Phys. B 6, L145.
2117. F. W. Byron, Jr. & J. I. Gersten, Collisional Quenching of Metastable Hydrogen Atoms by Rare Gases, Phys. Rev. Lett. 30, 115.
2118. C. L. Chen & A. V. Phelps, Absorption Coefficients for the Wings of the First Two Resonance Doublets of Cesium Broadened by Argon, Phys. Rev. A 7, 470.
2119. S. Y. Ch'en & P. K. Henry, The Shift and Broadening of the Resonance Lines of Ca, Sr and Ba in Hot, Dense Argon and Helium, J. Quant. Spectrosc. Radiat. Transfer 13, 41.
2120. S. Y. Ch'en & P. K. Henry, Pressure Shift and Broadening of the Resonance Lines of Singly Ionized Alkaline-Earth Atoms and Some Alkali Atoms in Hot Compressed Ar and He, J. Quant. Spectrosc. Radiat. Transfer 13, 385.
2121. M. H. Choudhury & J. Dunning-Davies, Pressure Shifts of High-Series Spectral Lines and Cross Sections for Scattering of Very Slow Electrons from Rare-Gas Atoms. II, Phys. Rev. A 7, 1549.

2122. G. H. Copley & D. M. Camm, Determination of Van Der Waals Broadening of Fe I Emission Lines Induced by Neutral He, *Astron. Astrophys.* 24, 239.
2123. C. Deutsch & S. Klarsfeld, Quadrupole Contributions to the Electron Broadening of Overlapping Neutral-Atom Lines in a Plasma, *Phys. Rev. A* 7, 2081.
2124. C. M. Dutta, N. C. Dutta, & T. P. Das, Hyperfine Pressure Shift of Helium ($1s2s: {}^3S$) Atoms in Helium ($1s^2: {}^1S$), *Phys. Rev. A* 7, 60.
2125. D. Fischel & D. A. KlingleSmith, The Last Balmer Line and H_γ in Model B Stars, *Astrophys. J.* 181, 841.
2126. V. V. Fomin & S. D. Tvorogov, Formation of the Far Wings Contour of Spectral Lines Broadened by a Foreign Gas; Analysis of Exponential Decrease of Continuous Absorption Beyond the Band Head of the $4.3\text{-}\mu$ Band of CO_2 , *Appl. Opt.* 12, 584.
2127. G. Fussmann & G. Himmel, Electron Contribution to Quasistatic Stark Broadening, *J. Quant. Spectrosc. Radiat. Transfer* 13, 393.
2128. G. Fussmann & G. Himmel, Measurement of Stark Broadened Balmer Lines Emitted from a Low Density HF-Discharge, *Z. Phys.* 259, 347. (Ger.)
2129. A. H. Gabriel & S. Volonte, Plasma Polarization Shift for Members of the Resonance Series of Ionized Helium, *Phys. Lett. A* 43, 372.
2130. C. C. Gallagher & M. A. Levine, Balmer-Line Anomalies in a Turbulent Plasma, *Phys. Rev. Lett.* 30, 897.
2131. Y. Gontier & M. Trahin, Higher-Order Effects in Resonant Multiphoton Processes, *Phys. Rev. A* 7, 1899.
2132. J. Granier & R. Granier, Induced Interatomic Spectra. "Blue" Satellite Bands Observed Near Atomic Absorption Lines in the Presence of Rare Gases--I. Experimental Aspect, *J. Quant. Spectrosc. Radiat. Transfer* 13, 473. (Fr.)
2133. A. G. Hearn & J. N. Holt, A Numerical Method for Inverting a Single Absorption Line Profile, *Astron. Astrophys.* 23, 347.
2134. J. Heuschkel & H. J. Kusch, Stark Broadening and Shift of Singly Ionized Aluminum Lines, *Astron. Astrophys.* 25, 149.

2135. G. Himmel & F. Pinnekamp, Stark Broadening of Paschen Lines in a Deuterium Discharge, *J. Quant. Spectrosc. Radiat. Transfer* 13, 555.
2136. J. W. Hutcherson & P. M. Griffin, Self-Broadened Absorption Linewidths for the Krypton Resonance Transitions, *J. Opt. Soc. Amer.* 63, 338.
2137. W. W. Jones, Comparison of Measured and Calculated Stark Parameters for Singly Ionized Atoms, *Phys. Rev. A* 7, 1826.
2138. S. H. Kim & H. E. Wilhelm, Stark Effect and Line Broadening in Three-Dimensional Stochastic Fields, *J. Appl. Phys.* 44, 802.
2139. G. F. Kirkbright & O. E. Troccoli, The Application of a Piezoelectric Scanning Fabry-Perot Interferometer to the Study of Atomic Line Sources--III. Use of the Channeled Spectra Produced with a Continuum Source for Studies of the Absorption Line-Width for Calcium Atoms in Flames, *Spectrochim. Acta*, Part B 28, 33.
2140. G. F. Kirkbright, O. E. Troccoli, & S. Vetter, The Application of a Piezoelectric Scanning Fabry-Perot Interferometer to the Study of Atomic Line Sources--II. Line-Widths for Calcium in Air-Acetylene and Nitrous Oxide-Acetylene Flames, *Spectrochim. Acta*, Part B 28, 1.
2141. L. Klein, Quasi-Monochromatic Measurements of Homogeneous Arc Plasmas, *J. Quant. Spectrosc. Radiat. Transfer* 13, 567.
2142. Z. Kucеровsky, E. Brannen, D. G. Rumbold, & W. J. Sarjeant, Absorption Line Parameter Measurements Using Laser Spectroscopy, *Appl. Opt.* 12, 226.
2143. T. R. LaSalle, Stark Broadening of High $n - \alpha$ Lines of Hydrogen, University of Maryland Technical Report #73-079.
2144. T. R. LaSalle, T.-J. Nee, & H. R. Griem, Stark Broadening of High-Principal-Quantum-Number $n - \alpha$ Lines of Hydrogen, *Phys. Rev. Lett.* 30, 944.
2145. R. W. Lee, A Theoretical Study of the Effects of Ion Motion on Spectral Lines in Plasmas II. Hydrogen- H_β , *J. Phys. B* 6, 1060.
2146. R. W. Lee, A Theoretical Study of the Effects of Ion Motion on Spectral Lines in Plasmas I. Neutral Helium Lines, *J. Phys. B* 6, 1044.

2147. J. J. Lorre, Enhancement of Spectra by Digital Convolution, *Astron. J.* 78, 67.
2148. M. Lukaszewski & A. Sieradzan, Broadening of Level-Crossing Signals in $5^2P_{3/2}$ State of ^{87}Rb by Collisions with Argon, *Phys. Lett. A* 43, 227.
2149. R. Mahon, R. W. Lee, & D. D. Burgess, Experimental and Theoretical Studies on Non-Adiabatic Ion Dynamic Contributions to the He I 4026 $2^3P - 5^3D, 5^3F$ Profile at Low Electron Densities, *J. Phys. B* 6, 354.
2150. V. G. Mikhalev, S. N. Ogorodnikov, & V. G. Pankratov, Some Properties of Spectral Line Broadening for Lithium, *Zh. Prikl. Spektrosk.* 18, 136. (Russ.)
2151. C. L. Morgan & E. S. Ensberg, Precise Hyperfine Pressure-Shift Measurements for Hydrogen Isotopes in Argon, *Phys. Rev. A* 7, 1494.
2152. N. Panagia & M. Ranieri, Line Radiation Transfer in Extended Envelopes I. Lyman- α Radiation in a Pure Hydrogen Nebula, *Astron. Astrophys.* 24, 219.
2153. R. A. Pasmanter & A. Ben-Reuven, Resonance-Transfer Contributions to Resonance Line Broadening in the Impact Limit, *J. Quant. Spectrosc. Radiat. Transfer* 13, 57.
2154. R. L. Ptak & R. E. Stoner, The Broad Component of H α in the Seyfert Galaxy NGC 5548, *Astrophys. J.* 179, L89.
2155. G. Pujol, P. Quercy, & S. Weniger, Pressure Broadening and Shift of the Absorption Lines of Some Multiplets of the Neutral Manganese Atom, *J. Quant. Spectrosc. Radiat. Transfer* 13, 9. (Fr.)
2156. L.-Q. Rang, On a Cut-Off in the Non-Markovian Treatment of Stark Broadening, *C.R.H. Acad. Sci., Ser. B* 276, 449. (Fr.)
2157. L. J. Roszman & C. F. Hooper, Jr., Distribution of the Time-Dependent Microfield in a Plasma, *Phys. Rev. A* 7, 2121.
2158. A. Royer, Density Expansion of the Memory Operator in Pressure-Broadening Theory, *Phys. Rev. A* 7, 1078.
2159. K. M. Sando & J. C. Wormhoudt, Semiclassical Shape of Satellite Bands, *Phys. Rev. A* 7, 1889.

2160. J. C. Stewart, J. M. Peek, & J. Cooper, Satellites to Lyman- α Due to Protons, *Astrophys. J.* 179, 983.
2161. M. W. P. Strandberg, Some Properties of Spectral Line Profiles, *Ann. Phys. (New York)* 77, 174.
2162. H. Tang, Parametric Frequency Conversion of Resonance Radiation in Optically Pumped Rb⁸⁷ Vapor, *Phys. Rev. A* 7, 2010.
2163. C. R. Vidal, J. Cooper, & E. W. Smith, Hydrogen Stark-Broadening Tables, *Astrophys. J.*, Suppl. Ser. 25, No. 214, 37.
2164. D. Voslamber, Lyman- α Profiles and the LTE-Assumption, *Phys. Lett. A* 42, 469.
2165. D. G. Yakovlev, Spectroscopy of a Turbulent Plasma, *Sov. Phys.-Tech. Phys.* 17, 1248.

4. LIST OF AUTHORS

<u>Author</u>	<u>Ref. No.*</u>	<u>Author</u>	<u>Ref. No.*</u>
Acinger, K.	2069	Barnard, A. J.	2049
Alekseev, V. A.	1907	Bassalo, J. M.	1913
Alger, D.	2111	Bazhov, A. S.	1555
Andreeva, T. L.	1358, 1907	Bekefi, G.	1701, 1914, 2083
Antipova-Karataeva, I.	1839	Belyaev, M. P.	1357
Antropov, E. T.	2065	Ben-Aryeh, Y.	1915
Aoki, T.	2085	Benett, S. M.	1863
Apanasevich, P. A.	1529	Bengtson, R. D.	1916
Arkhipenko, V. I.	2112	Bennett, W. R., Jr.	2065, 2066
Arkhipov, V. M.	1840	Ben-Reuven, A.	2153
Asmaryan, E. A.	1908	Berman, P. R.	1917, 1918
Atakan, A. K.	1909, 2113	Besombes, F.	1673
Audoin, C.	1862	Beth, M. U.	1841
Bacon, M. E.	1910, 1911	Biaz, T.	1919
Baird, J. C.	1982, 2031	Bielicz, E.	1920
Baird, K. M.	547	Billman, K.W.	2114
Bajard, M-C.	1843, 1927	Bogdanova, L. A.	1921
Bakshi, P.	1943	Bogen, P.	1922
Bankovskii, A. S.	1529	Borenstein, M.	1923
Barbe, R.	1912	Borodin, V. S.	1842, 1924, 1925, 1926

*The numbers refer to paper identification numbers of Part 3.

<u>Author</u>	<u>Ref. No.*</u>	<u>Author</u>	<u>Ref. No.*</u>
Bottcher, C.	2115	Camm, D. M.	2122
Bouvier, Al.	1843,1927	Capes, H.	1846,1937
Bouvier, An.	1843,1927	Carlsten, J. L.	2018
Brannen, E.	2142	Carrington, C. G.	1847
Brechot, S. (also Sahal, S. or Sahal- Brechot, S.)	1851	Castex, M. C.	1675
Brissaud, A.	1530	Cattani, M.	1676,1848, 1849,1913, 1938
Brochard, J.	2116	Chaika, M. P.	1540,1850
Brocklehurst, M.	1928	Chamaraux, P.	1228
Brodersen, S.	434	Chapelle, J.	1851,1939 1955
Broida, H. P.	1232, 1538	Chappell, W. R.	1852
Browner, R. F.	1929,2063	Chen, C. L.	2118
Budnikov, V. N.	2112	Ch'en, S. Y.	1117,2119, 2120
Bulos, B. R.	1365	Cherkasov, M. R.	1940
Burgess, D. D.	1930,1931 1932,2149	Chester, G. R.	1916
Burrell, C. F.	1933,1934	Cheval, G.	1941
Burshtein, A. I.	2062	Chkuaseli, Z. D.	1878
Butaux, J.	1359,1844, 1935	Choudhury, M. H.	2121
Bykhovskii, D. G.	1845	Churchwell, E.	1677
Byron, F. W., Jr.	2117	Cirkovic, LJ.	1681
		Cohen-Tannoudji, C.	1531,1942
		Cohn, A.	1943
Caby, M. (also Caby- Eyraud, M.)	1936	Comer, J.	1944

* The numbers refer to paper identification numbers of Part 3.

<u>Author</u>	<u>Ref. No.*</u>	<u>Author</u>	<u>Ref. No.*</u>
Cooke, D. O.	1945	Deutsch, C.	1853,1952 1953,2123
Cooper, J.	1852,1959, 2032,2058, 2160,2163	Diatto, C.	1851
Cooper, W. S.	1976	Dicke, R. H.	509
Copley, G. H.	2122	Dmitrieva, E. A.	1995
Corney, A.	1847	Dodsworth, B. M.	1954
Coulaud, G.	1853,1952, 1953,2054	Drummond, D. L.	1974
Cowley, C.	1854	Dubreuil, B.	1955
Crampton, S. B.	1946	Dufton, P. L.	1956
Curtis, A. R.	459,460	Dufty, J. W.	1678
Cussenot, J. R.	1960	Dunning-Davies, J.	2121
Czernichowski, A.	1939	Dupont-Roc, J.	1942
Czuchaj, E.	1920	Dutta, C. M.	1856,2124
		Dutta, N. C.	1856,2124
		Duvivier, J. A.	1946
Dagnall, R. M.	1945	Dyne, R. J.	1857,1957
Das, T. P.	2124	Dyukov, V. V.	1958
Dashevskaya, E. I.	1947		
Davies, R. D.	1855	Ecker, G.	548
Davis, J.	1948	Edrich, J.	1677
Davis, W. D.	1949	Eliseev, V. V.	1532
Demidov, B. A.	1886	Ensberg, E. S.	1858,2151
Demura, A. V.	1950,2057	Evans, J. M., Jr.	1959
de Sa, A.	1951	Evdokimov, Yu. V.	1859

*The numbers refer to paper identification numbers of Part 3.

<u>Author</u>	<u>Ref. No.*</u>	<u>Author</u>	<u>Ref. No.*</u>
Fabre, G.	1941	Galan, L. de	1360,1860
Fabry, M.	1960	Gallagher, A.	1974
Fanchento, S. D.	1886	Gallagher, C. C.	2130
Farges, M-F.	1941	Gallo, C. F.	1970
Farr, J. M.	1977	Garrett, R. O.	1117
Feld, M. S.	1961	Gay, J. C.	1954
Feldman, B. J.	1961	Gebekov, V. B.	1924,1926
Fischel, D.	2125	Gebekov, V. D.	1842,1925
Fishman, I. S.	1958	George, E. V.	1701,2083
Fiutak, J.	1920	Gershun, V. V.	1861
Fomin, V. D.	2074	Gersten, J. I.	2117
Fomin, V. V.	1883,2126	Gibbs, H. M.	1965
Franken, L. P. L.	1978	Gileva, M. V.	1357
Frei, K.	737	Gindina, V. F.	1925
Frisch, U.	1530	Ginsburg, V. L.	1966
Füchtbauer, Chr.	209	Girault, M.	1877
Fuhr, J. R.	1962	Goloborod'ko, V. T.	1679
Fursov, V. S.	486	Golubovskaya, S. M.	1680,1845
Fussmann, G.	1963,2127 2128	Golubovskii, Yu. B.	1680,1845
Futrelle, R. P.	1964	Gontier, Y.	2131
Gabriel, A. H.	2129	Goody, R. M.	459,460
		Granier, J.	1673, 2132

*The numbers refer to paper identification numbers of Part 3.

<u>Author</u>	<u>Ref. No.*</u>	<u>Author</u>	<u>Ref. No.*</u>
Granier, R.	1235,1673, 2132	Hearnshaw, J. B.	1973
Granzow, A.	1533	Hedges, R. E. M.	1974
Grasdalen, G. L.	1534	Henry, P. K.	2119,2120
Gray, C. G.	1967	Hess, R. A.	1976
Grechikhin, L. I.	866,1118, 1229,1230, 1361,1535, 1536	Hess, S.	1975
Greig, J. R.	1985	Heuschkel, J.	2134
Griem, H. R.	1863,1968, 1969,1985, 2144	Heyde, R. von der	1288
Griffin, P. M.	2136	Hicks, W. W.	1976
Grindlay, J. E.	1537	Himmel, G.	2127,2128 2135
Grudanov, V. S.	1357	Hindmarsh, W. R.	867,1977
Grujic, P.	1681	Hoffman, M. Z.	1533
Grumberg, J.	2016	Hoffmann, P.	1841
Günthard, Hs. H.	737	Hollander, Tj.	1232,1538, 1978
Gurkut, B.	1862	Holt, J. N.	2133
Hammond, T. J.	1970	Holweger, H.	1979
Happer, W.	1231,1365, 1683,1688, 1971	Hood, R. J.	1980,2048
Harstad, K. G.	1972	Hooper, C. F., Jr.	2029,2157
Hawryluk, R. J.	1701,2083	Horlick, G.	1981
Hearn, A. G.	2133	Hsieh, J. C.	1982,2031
		Huber, M.	1534
		Hunt, B. L.	1119,1234
		Hutcherson, J. W.	2136

*The numbers refer to paper identification numbers of Part 3.

<u>Author</u>	<u>Ref. No.*</u>	<u>Author</u>	<u>Ref. No.*</u>
Ilin, G. G.	1958	Khutorshchikov, V.	1861
Jacobson, H. C.	1909, 1983 2113	Khvostenko, G.	1540
Janin, J.	1927	Kielkopf, J. F.	1989
Jansen, B. J.	1978	Kim, S. H.	2138
Jones, W. W.	1863, 1984, 1985, 2137	Kirkbright, G. F.	2111, 2139, 2140
Kagan, Yu. M.	1680, 1842 1845, 1924, 1925, 1926	Kitaeva, V. F.	508, 1864
Kalinin, Yu. G.	1886	Klarsfeld, S.	2123
Kaliteyevskii, N. I.	1859	Klein, L.	2141
Kalman, G.	1943	Kling, M. G.	1841
Kandela, S. A.	1987	Klinglesmith, D.A.	2125
Kartaleva, S. S.	1995	Kobzeva, E. A.	1947
Kaufman, S. L.	2047	Kogan, V. I.	1990, 1991
Kazanova, N. N.	1839	Kolobova, G. A.	1122, 1123, 1362
Kelleher, D. E.	1885, 2079	Konjevic, N.	1681, 1682, 1865, 1992, 2046
Kepple, P.	1988	Konov, I. P.	1993, 1994
Khlybov, G. N.	1908	Korolev, F. A.	1995
Khmelinin, B. A.	1539	Kovalev, I. F.	1868, 2024
Khodovoi, V. A.	2043	Krause, L.	1120
		Krey, R. U. (also Morris, R. U.)	1684
		Krykov, I. I.	1996
		Kucerovsky, Z.	2142
		Kuhn, H. G.	1541

*The numbers refer to paper identification numbers of Part 3.

<u>Author</u>	<u>Ref. No.*</u>	<u>Author</u>	<u>Ref. No.*</u>
Kulagin, E. V.	1997	Lichtin, N. N.	1533
Kunze, H. J.	1933, 1934	Lijnse, P. L.	1978
Kusch, H. J.	1288, 1998, 2055, 2134	Lin, D. L.	2004
Labat, J.	1681	Lisitsa, V. S.	1866, 1950, 1990, 1991, 2008, 2009, 2010, 2057
Lagarde, D. (also Perrin-Lagarde, D.)	2037	Lisyuk, Yu. V.	2011
Lagutin, V. I.	1999	Lorre, J. J.	2147
Laloë, F.	1912	Louër, D.	1877
Lamb, W. E., Jr.	1923	Lugin, E. V.	1542
Lambert, F.	2000	Lukaszewski, M.	2148
Lapp, M.	1121	L'vov, B. V.	2012
LaSalle, T. R.	2143, 2144	Madan, R. N.	2013
Leboucher, E.	1844	Mahan, G. D.	1364, 1543, 2014, 2015
Leduc, M.	1912	Mahon, R.	1931, 2149,
Lee, R.	2001, 2002, 2003, 2145, 2146, 2149	Malinovsky, M.	1851
Lee, Y. C.	2004	Mansfield, J. M.	1125
Lennuier, R.	1359, 1844 1935, 2037	Marechal, F.	2016
Lesage, A.	2005	Marteau, P.	1235
Levine, M. A.	2130	Mathur, B. S.	1231, 1365, 1683
Lewis, E. L.	1541, 2006, 2007	McCartan, D. G.	1951, 2017
Leycuras, Y.	1363	McGee, W. W.	1125, 1236,

*The numbers refer to paper identification numbers of Part 3.

<u>Author</u>	<u>Ref. No.*</u>	<u>Author</u>	<u>Ref. No.*</u>
McIlrath, T. J.	1932,2018	Myerscough, V. P.	2025
McNamara, L. F.	1867,2006, 2007		
Mead, C. A.	2019	Nagibina, I. M.	582
Meredith, R. E.	2020,2021	Naumann, F.	2026
Mergault, P.	1919	Nee, T-J.	2144
Metchnik, V. I.	2034	Nesmelova, L. I.	1542
Michel, K. W.	2026	Nguyen-Hoe	1936
Michels, H. H.	2007	Niemax, K.	2027
Michiyoshi, I.	2086	Norkunas, V.	677
Mikhalev, V. G.	2150	Novikov, I. A.	2028
Mikhnenko, G. A.	2022		
Mishakov, G. A.	1997	O'Brien, J. T.	2029
Misyunas, A.	677	Odintsov, A. I.	1995
Mita, N.	2084	Oganov, M. N.	486
Mitin, R. V.	2023	Ogawa, T.	1367,2084
Molitor, A.	1686	Ogorodnikov, S. N.	2150
Molodenkova, I. D.	1868,2024	Oks, E. A.	2030
Morgan, C. L.	1858,2151	O'Mara, B. J.	1957
Morlais, M.	1240,1544	Omont, A.	1954,2031 2032
Morozov, E. N.	1880	Osipov, Yu. I.	1864
Morris, J. C.	1684,1869	Ovechkin, G. V.	1238,1546, 1547
Morris, R. U. (also Krey, R. U.)	1684	Ozaki, N.	1871
Mukhamedgalieva, A.	1545,1870		

*The numbers refer to paper identification numbers of Part 3.

<u>Author</u>	<u>Ref. No.*</u>	<u>Author</u>	<u>Ref. No.*</u>
Panagia, N.	2152	Platisa, M.	1682, 1865, 1992
Pancharatnam, S.	2033	Platz, P.	1873
Pankratov, V. G.	2150	Podkladenko, M. V.	1921
Paquette, D. R.	2079	Poizner, B. N.	2074
Parkinson, W. H.	1534	Popov, A. I.	1993, 1994
Parsons, M. L.	1125	Popov, A. K.	1874
Parsons, R. W.	2034	Popov, L. N.	2074
Pasmanter, R. A.	2153	Popova, T. N.	1996
Peach, G.	2025, 2035, 2036	Popova, T. Ya.	1874
Peek, J. M.	2160	Popovic, M.	1992
Pepperl, R.	1685	Poquerusse, A.	2041
Perarnau, G.	2071	Posener, D. W.	623, 2042
Perrin-Lagarde, D. (also Lagarde, D.)	2037	Preobrazhenskii, N.	1122, 1123, 1239, 1366, 1376
Peysakhson, I. V.	1872	Prilezhaeva, N. A.	1357
Peytremann, E.	2038	Protsenko, E. D.	1993, 1994, 2022
Pfennig, H.	2039	Pryadkin, K. K.	2023
Phelps, A. V.	2118	Przhibelskii, S. G.	2043
Pichler, G.	2040	Ptak, R. L.	2154
Pikhtelev, A. I.	1997	Pujol, G.	1876, 2155
Pinnekamp, F.	2135	Puric, J.	1865, 2045, 2046
Plakhov, A. G.	1886	Queffelec, J. L.	1877

*The numbers refer to paper identification numbers of Part 3.

<u>Author</u>	<u>Ref. No.*</u>	<u>Author</u>	<u>Ref. No.*</u>
Quemerais, A.	1544	Rupin, J-M.	1240,1544
Quercy, P.	1876,2155	Rusanov, V. D.	1886
Rang, L-Q.	2156	Sahal, S. (also	1851
Ranieri, M.	2152	Brechot, S. or	
Ranson, P.	1955	Sahal-Brechot, S.)	
Ray, S.	2047	Sanchez, A.	1985
Razmadze, N. A.	1878	Sando, K.	2159
Read, F. H.	1944	Sandrigailo, L. E.	1238,1546, 1547
Read, G. S.	1946	Sarjeant, W. J.	2142
Reck, G. P.	1980,2048	Sassi, M.	1853,1952 1953,2053, 2054
Regemorter, H. van	2070	Saulit, V. R.	2028
Reimers, H. J.	209	Schermann, J. P.	1862
Reymann, D.	2116	Schmidt, E. G.	1687,1973
Richou, J.	1686,2005	Schreiber, H.	1998,2055
Roberts, D. E.	2049	Schuller, F.	1935
Robin, St.	1240,1544	Scott, C. D.	2056
Roszman, L. J.	1962,2157	Seaton, M. J.	1928,2036
Roueff, E.	2050,2051	Sedoi, E. A.	2022
Royer, A.	2052,2158	Selyavskii, V. T.	1880
Rozhkov, V. V.	1879	Shaparev, N. Ya.	1366
Rozuvanova, V. A.	1840	Shapkin, V. V.	1886
Rudakov, L. I.	1886	Sharapova, T. A.	1376
Rumbold, D. G.	2142		

*The numbers refer to paper identification numbers of Part 3.

<u>Author</u>	<u>Ref. No.*</u>	<u>Author</u>	<u>Ref. No.*</u>
Shaw, D. T.	2081	Story, I. C.	2034
Sholin, G. V.	1878,1886, 2009,2010, 2030,2057	Strandberg, M. W.	2161
Sibulkin, M.	1119,1234	Strekalov, M. L.	2062
Sieradzan, A.	2148	Striganov, A. R.	486
Skoryupin, V. A.	1886	Stringat, R.	1941
Skutov, D. K.	1118	Svoboda, V.	2063
Smith, D. S.	547	Sysun, V. I.	2064
Smith, E. W.	1852,2032, 2058,2163	Sze, R. C.	2065,2066
Smith, G.	2059	Szoke, J.	2067
Smith, W. E.	487	Szudy, J.	1987
Smolkin, G. E.	1886	Tambovtsev, B. Z.	1242
Sobel'man, I. I.	1907	Tang, H.	1365,1683, 1688,2162
Sobolev, N. N.	357,1864	Tatarenkov, V. M.	1545,1870
Sorgen, A.	1915	Titov, A. N.	1545,1870
Sosinskii, M. L.	1880	Titov, A. V.	1886
Spatschek, K-H.	1881	Tonejc, A. M.	2068,2069
Stallcop, J. R.	2114	Trahin, M.	2131
Stanzel, G.	2060	Tran-Minh, N.	2070
Stewart, J. C.	2160	Triche, C.	1882,2071
Stewart, J. E.	1241	Trigt, C. van	1124
Stickford, G. H., Jr.	2061	Troccoli, O. E.	2111,2139, 2140
Stoner, R. E.	2154	Tsoi, V. I.	2072

*The numbers refer to paper identification numbers of Part 3.

<u>Author</u>	<u>Ref. No.*</u>	<u>Author</u>	<u>Ref. No.*</u>
Tvorogov, S. D.	1542,1883, 1884,2126	Weniger, S.	1876,2155
Tyunina, E. S.	1229,1230	West, T. S.	1945
		Wiese, W. L.	1885,1962, 2078,2079
Uspensky, A. V.	1870	Wilhelm, H. E.	2138
		Williams, E. R.	1946
Valognes, J-C.	1919	Winefordner, J. D.	1125,1236, 1360,1929, 2063
Varfolomeev, V. I.	2112		
Velichko, A. G.	2072	Wittke, J. P.	509
Vetter, R.	2116	Wormhoudt, J. C.	2159
Vetter, S.	2140	Wright, J. J.	2080
Vidal, C. R.	2058,2163	Wu, J. M.	2081
Vodar, B.	1235		
Voinov, V. V.	1536	Ya 'akobi, B.	1701,2082, 2083
Voitsekhovskaya, O.	1884		
Volonte, S.	2073,2129	Yabuzaki, T.	1367,2084
Vorobeichikov, E.	2074	Yakobson, N. N.	1861
Voslamber, D.	1519,1846, 1937,2076, 2077, 2164	Yakovlev, D. G.	2165
		Yamamoto, G.	2085
Vu, H.	1235	Yefimov, V. A.	1872
Vujnovic, V.	2069	Yos, J. M.	1869
		Yoshikawa, K.	2086
		Yukov, E. A.	2087
Wagenaar, H. C.	1860		
Wendt, K.	1998	Zacha, K. E.	1125

*The numbers refer to paper identification numbers of Part 3.

<u>Author</u>	<u>Ref. No.*</u>	<u>Author</u>	<u>Ref. No.*</u>
Zaidi, H. R.	2088,2089, 2090,2091	Zeegers, P. J. Th.	1978
Zavoiskii, E. K.	1886	Zherebenko, A. V.	1555
Zav'yalov, G. I	1357	Zvyagintsev, A. V.	2023
Zav'yalova, A. Yu.	1357		

*The numbers refer to paper identification numbers of Part 3.

5. ERRATA TO THE FIRST BIBLIOGRAPHY

<u>Ref. No.*</u>	<u>Corrections or Additions</u>
85	In Part 2, the entry should be listed under Na I (Natural - E) and Na I (Resonance - E) instead of Na I (Natural - Resonance - E).
117	In Part 2, the entry should be listed under Cs I (Resonance - E) instead of S I (Resonance - E).
169	In Part 1, the entry should be listed under 1.1 - Theoretical papers.
350	In Part 1, the entry should be listed under 1.1 - Theoretical papers.
387	In Part 3, the language (Ger.) should be added.
501	In Part 3, the language (Russ.) should be added.
708	In Part 3, the entry should read Ar I, not Al.
857	In Part 2, the entry should be listed under Sn IV (Stark - T,E) instead of Sr IV (Stark - T,E).
928	In Part 3, the language (Fr.) should be added.
1002	In Part 2, this reference should be added under Na I (Van der Waals - E) by Xe.
1038	In Part 2, the entry should be listed under Cs I (Stark - E) instead of S I (Stark - E).
1062	In Part 3, the year (1970) should be added to the last reference.
1146	In Part 4, this reference should be added under the authors J. P. Oss and W. G. Braun.
1151	In Part 3, the language (Fr.) should be added.

*The numbers refer to paper identification numbers of Part 3 of the first bibliography.

- 1162 In Part 3, the language (Fr.) should be added.
- 1168 In Part 4, the author should appear as J.-P. Faroux instead of M. P. Faroux.
- 1173 In Part 3, the year (1970) should be added to the last reference.
- 1266 In Part 3, the language (Fr.) should be added.
- 1276 In Part 4, the author U. Feldman should be added.
- 1288 In Part 3, an English translation to the previously cited German work is provided. This translation, found in Jena Rev. 16, 36 (1971), is also incorporated into this supplement.
- 1311 In Part 4, the author A. A. Minaeva should be added and this reference should not appear under L. A. Minaeva.
- 1352 In Part 3, the language (Ger.) should be added.
- 1357 In Part 3, an English translation to the previously cited Russian work is provided. This translation, found in Sov. Phys. J. 11, No. 3, 97 (1968), is also incorporated into this supplement.
- 1399 In Part 3, the language (Fr.) should be added.
- 1475 In Part 4, this reference should be added under the author D. Weigel.
- 1480 In Part 4, this reference should appear under the author J. Payne instead of A. I. Troinikov.
- 1502 In Part 3, the language (Fr.) should be added.
- 1511 In Part 1, the reference should appear under 1.1.1. - Theoretical papers.
- 1519 In Part 3, add the reference Z. Naturforsch. A 26, 1558 (1971). This erratum is incorporated into this supplement.

*The numbers refer to paper identification numbers of Part 3 of the first bibliography.

- 1555 In Part 3, an English translation to the previously cited Russian work is provided. This translation, found in J. Appl. Spectrosc. (USSR) 12, 307 (1970), is also incorporated into this supplement.
- 1575 In Part 3, this reference should appear under 1966, not 1970. However, the year (1970) should be added at the end of the reference because it is an erratum. This reference, incorporated into this supplement, is given a new number - 1117.
- 1662 In Part 4, this reference should be added under the authors A. Tsuji and H. Narumi and removed from the authors B. Kleman and E. Lindholm.
- 1701 In Part 3, the authors should appear as B. Ya'akobi, E. V. George, G. Bekefi, and R. J. Hawryluk. In Part 4, add this reference to the authors B. Ya'akobi and R. J. Hawryluk and remove from P. A. Politzer. These changes have been incorporated into this supplement.
- 1736 In Part 2, the entry should be listed under He I (Stark - T).
- 1737 In Part 3, this reference should appear under 1970, not 1971. However, the year (1971) should be added at the end of the reference because it is an erratum. This reference, incorporated into this supplement, is given a new number - 1678.
- 1787 In Part 2, the entry should be listed under Ne I (Resonance - E) and Ne I (Stark - E) instead of Ne I (Stark - Resonance - E).
- 1863 In Part 3, this reference should appear under 1969, not 1972. It is assigned a new number in this supplement - 1531.
- 1868 In Part 3, add the reference Phys. Rev. A 6, 851 (1972). This erratum is incorporated into this supplement. The entire reference is also given a new number - 1961.

*The numbers refer to paper identification numbers of Part 3 of the first bibliography.

U.S. DEPT. OF COMM. BIBLIOGRAPHIC DATA SHEET	1. PUBLICATION OR REPORT NO. NBS SP-366 Supplement 1	2. Gov't Accession No.	3. Recipient's Accession No.
4. TITLE AND SUBTITLE Bibliography on Atomic Line Shapes and Shifts (April 1972 through June 1973)		5. Publication Date January 1974	
		6. Performing Organization Code	
7. AUTHOR(S) J. R. Fuhr, L. J. Roszman, and W. L. Wiese		8. Performing Organization	
9. PERFORMING ORGANIZATION NAME AND ADDRESS NATIONAL BUREAU OF STANDARDS DEPARTMENT OF COMMERCE WASHINGTON, D.C. 20234		10. Project/Task/Work Unit No. 2320171	
		11. Contract/Grant No.	
12. Sponsoring Organization Name and Address Same as No. 9.		13. Type of Report & Period Covered Interim April 1972 - June 1973	
		14. Sponsoring Agency Code	
15. SUPPLEMENTARY NOTES			
16. ABSTRACT (A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here.) This is the first supplement to the NBS Special Publication 366, "Bibliography on Atomic Line Shapes and Shifts (1889 through March 1972)." It contains about 350 references and covers the literature from April 1972 through June 1973. The bibliography contains five major parts: (1) All general interest papers are cataloged according to the broadening mechanisms (and, further, according to special topics under several of the mechanisms) and as to whether the work is a general theory, a general review, a table of profiles or parameters, a comment on existing work, a study of general experimental measurement techniques, or an experimental effort of general importance. Also included are selected papers on important applications of line broadening and on miscellaneous topics relating to atomic spectral line shapes and shifts. (2) In Part 2, all papers containing numerical data are ordered as to element, ionization stage, broadening mechanism (in the case of foreign gas broadening the perturbing species are listed), and it is indicated whether the data are experimentally or theoretically derived. (3) While in the two preceding parts of the bibliography the references are listed for brevity by identification numbers only, in Part 3 all references are listed completely by journal, authors, and title and are arranged chronologically and alphabetically within each year according to the principal author. (4) This section contains a list of all authors and their papers. (5) A final section provides corrections or additions to our first bibliography.			
17. KEY WORDS (Alphabetical order, separated by semicolons) Atomic; instrumental broadening; line shapes; line shifts; pressure broadening; resonance broadening; Stark broadening; Van der Waals broadening.			
18. AVAILABILITY STATEMENT ☒ UNLIMITED. ☐ FOR OFFICIAL DISTRIBUTION. DO NOT RELEASE TO NTIS.		19. SECURITY CLASS (THIS REPORT) UNCLASSIFIED	21. NO. OF PAGES 73
		20. SECURITY CLASS (THIS PAGE) UNCLASSIFIED	22. Price

NBS TECHNICAL PUBLICATIONS

PERIODICALS

JOURNAL OF RESEARCH reports National Bureau of Standards research and development in physics, mathematics, and chemistry. Comprehensive scientific papers give complete details of the work, including laboratory data, experimental procedures, and theoretical and mathematical analyses. Illustrated with photographs, drawings, and charts. Includes listings of other NBS papers as issued.

Published in two sections; available separately:

• Physics and Chemistry (Section A)

Papers of interest primarily to scientists working in these fields. This section covers a broad range of physical and chemical research, with major emphasis on standards of physical measurement, fundamental constants, and properties of matter. Issued six times a year. Annual subscription: Domestic, \$17.00; Foreign, \$21.25.

• Mathematical Sciences (Section B)

Studies and compilations designed mainly for the mathematician and theoretical physicist. Topics in mathematical statistics, theory of experiment design, numerical analysis, theoretical physics and chemistry, logical design and programming of computers and computer systems. Short numerical tables. Issued quarterly. Annual subscription: Domestic, \$9.00; Foreign, \$11.25.

DIMENSIONS, NBS

The best single source of information concerning the Bureau's measurement, research, developmental, cooperative, and publication activities, this monthly publication is designed for the layman and also for the industry-oriented individual whose daily work involves intimate contact with science and technology—for engineers, chemists, physicists, research managers, product-development managers, and company executives. Annual subscription: Domestic, \$6.50; Foreign, \$8.25.

NONPERIODICALS

Applied Mathematics Series. Mathematical tables, manuals, and studies.

Building Science Series. Research results, test methods, and performance criteria of building materials, components, systems, and structures.

Handbooks. Recommended codes of engineering and industrial practice (including safety codes) developed in cooperation with interested industries, professional organizations, and regulatory bodies.

Special Publications. Proceedings of NBS conferences, bibliographies, annual reports, wall charts, pamphlets, etc.

Monographs. Major contributions to the technical literature on various subjects related to the Bureau's scientific and technical activities.

National Standard Reference Data Series. NSRDS provides quantitative data on the physical and chemical properties of materials, compiled from the world's literature and critically evaluated.

Product Standards. Provide requirements for sizes, types, quality, and methods for testing various industrial products. These standards are developed cooperatively with interested Government and industry groups and provide the basis for common understanding of product characteristics for both buyers and sellers. Their use is voluntary.

Technical Notes. This series consists of communications and reports (covering both other-agency and NBS-sponsored work) of limited or transitory interest.

Federal Information Processing Standards Publications. This series is the official publication within the Federal Government for information on standards adopted and promulgated under the Public Law 89-306, and Bureau of the Budget Circular A-86 entitled, Standardization of Data Elements and Codes in Data Systems.

Consumer Information Series. Practical information, based on NBS research and experience, covering areas of interest to the consumer. Easily understandable language and illustrations provide useful background knowledge for shopping in today's technological marketplace.

BIBLIOGRAPHIC SUBSCRIPTION SERVICES

The following current-awareness and literature-survey bibliographies are issued periodically by the Bureau:

Cryogenic Data Center Current Awareness Service (Publications and Reports of Interest in Cryogenics). A literature survey issued weekly. Annual subscription: Domestic, \$20.00; foreign, \$25.00.

Liquefied Natural Gas. A literature survey issued quarterly. Annual subscription: \$20.00.

Superconducting Devices and Materials. A literature survey issued quarterly. Annual subscription: \$20.00. Send subscription orders and remittances for the preceding bibliographic services to the U.S. Department of Commerce, National Technical Information Service, Springfield, Va. 22151.

Electromagnetic Metrology Current Awareness Service (Abstracts of Selected Articles on Measurement Techniques and Standards of Electromagnetic Quantities from D-C to Millimeter-Wave Frequencies). Issued monthly. Annual subscription: \$100.00 (Special rates for multi-subscriptions). Send subscription order and remittance to the Electromagnetic Metrology Information Center, Electromagnetics Division, National Bureau of Standards, Boulder, Colo. 80302.

Order NBS publications (except Bibliographic Subscription Services) from: Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

U.S. DEPARTMENT OF COMMERCE
National Bureau of Standards
Washington, D.C. 20234

OFFICIAL BUSINESS

Penalty for Private Use, \$300

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF COMMERCE
COM-215

